Deposition of:

Hearing , Volume II

March 10, 2020

In the Matter of:

Petition For A Certificate Of Convenience And Necessity / IN RE:

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1 ALABAMA PUBLIC SERVICE COMMISSION
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3 ALABAMA POWER COMPANY,
4 Applicant.
5 DOCKET NO. 32953
6 IN RE:
7 PETITION FOR A CERTIFICATE OF CONVENIENCE AND
8 NECESSITY
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VOLUME II
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13 TESTIMONY AND PROCEEDINGS before the
14 Honorable John A. Garner, Chief Administrative
15 Law Judge, at the Carl L. Evans Chief
16 Administrative Law Judge Hearing Complex, 900
17 RSA Union Building, 100 North Union Street,
18 Montgomery, Alabama, on Tuesday, March 10, 2020,
19 commencing at approximately 9:00 a.m., and
20 reported by Haley Tunnell, Certified Court
21 Reporter and Commissioner for the State of
22 Alabama at Large.
23 * * * * * * * * * * *

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***All exhibits retained by ALJ Garner and are not attached to the transcript.

P R O C E E D I N G S

THE COURT: All right. We're here for the continued hearing of Docket 32953. We are continuing with the presentation of Alabama Power's case in chief. I believe we are to Mr. Bush's testimony at this point in time.

Any housekeeping matters we need to address before we jump in?

MR. McCARY: No, sir.

THE COURT: Okay. All right. You can call Mr. Bush at this point in time.

MR. GROVER: Okay. Mr. Bush, please.

MIKE BUSH,

the witness, having been sworn or affirmed to speak the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MR. GROVER:

Q. Can you state your name for the record please.

A. My name is Mike Bush.
Q. By whom are you employed, Mr. Bush?
A. Southern Company Services.
Q. Okay. And what is your business address?
A. 600 North 18th Street, Birmingham, Alabama.
Q. And did you cause direct testimony to be filed in this proceeding?
A. Yes.
Q. Okay. And do you have any changes to that direct testimony?
A. I do not.
Q. Okay. If I asked the questions that are posed in that direct testimony to you, would your answers be the same?
A. Yes, they would.
Q. Okay. Did you also cause rebuttal testimony to be filed in this proceeding?
A. Yes, I did.
Q. Okay. And similarly, do you have any changes to that rebuttal testimony?
A. I do not.
Q. And if I ask you a question set forth in that testimony, would your answers be the same

as recorded there?
A. Yes.
MR. GROVER: Okay. Your Honor, we move to have Mr. Bush's direct and rebuttal testimonies moved into the record subject to cross-examination.
THE COURT: Mr. Bush's testimony will be admitted subject to cross.
BY MR. GROVER:
Q. Okay. Mr. Bush, do you have an opening summary you would like to present?
A. Yes, I do.
Q. Okay. Please.
A. Madam President, Commissioners, and Your Honor. Good morning. Today I will be discussing the merits of building a new combined cycle gas turbine generator for the customers of Alabama Power Company. According to the U.S. Energy Information Administration, natural gas generation made up 38 percent of the total energy supply in the United States in 2019 and the EIA produced natural gas to continue to increase its total production of electricity

through 2015. The Barry Unit 8 combined cycle project, if approved by this Commission, represents a unique opportunity for Alabama Power to secure the additional reliable cost-effective dispatchable capacity. If authorized and upon completion, Barry Unit 8 will be among the most efficient advanced combined cycle generator units in the world.

The EPC agreement governs the design, instruction, and commissioning of Barry Unit 8, contains a number of features that are intended to shift the risks inherent in a project of this kind. Alabama Power is committed to providing clean, safe, reliable, and affordable service to our customers. By authorizing Barry Unit 8 to be built, this Commission will ensure that the customers of Alabama Power will have a resource that can meet their ongoing needs for years to come.

Thank you.

Q. Thank you, Mr. Bush.

MR. GROVER: With that, Your Honor, we tender him for cross-examination.

THE COURT: All right. Any cross-examination for Manufacture Alabama?

MR. CLARK: No, sir, Your Honor.

THE COURT: That brings us to you, Mr. Hill.

MR. HILL: We have no questions.

THE COURT: All right. That brings us to Sierra Club.

MS. CSANK: Your Honor, if I may just have a moment to get situated.

THE COURT: Sure.

MS. CSANK: Your Honor, I don't know -- my recollection of the order was that there may have been some additional interveners ahead of Sierra Club, but I may be mistaken, such as Energy Alabama.

THE COURT: No. They're actually after you in the order.

CROSS-EXAMINATION

BY MS. CSANK:

Q. Good morning, Mr. Bush.

A. Good morning.

Q. I'm Diana Csank, counsel for Sierra Club.

Sir, you worked for Mississippi Power in the early '90s; correct?
A. That's correct.
Q. Since then, you have worked for Southern Company Services; right?
A. Yes.
Q. Mississippi Power, as we heard yesterday, is a subsidiary of Southern Company; correct?
A. Yes.
Q. And Southern Company services is also held by Southern Company?
A. Yes. That's correct.
Q. So you've worked for Southern through its subsidiaries for about 30 years?
A. That seems right, yes.
Q. And you moved to your current role as manager of generations planning and development more than a decade ago in 2009; correct?
A. That's right.
Q. And Southern's regulated system refers to the combined systems of Georgia Power, Mississippi Power, and Alabama Power; right, sir?

A. That's right.
Q. And those companies, Georgia Power, Mississippi Power, and Alabama Power, are often referred to as the, quote/unquote, "retail operating companies" or ROC; is that right?
A. They are.
Q. Okay. And you're familiar with the testimony of exhibits pre-filed by Southern Company witnesses in this case?
A. I am, yes.
Q. And so, for example, you have reviewed and agree with Mr. Kelley's pre-filed testimony exhibits; is that right?
A. That's right, as I understand them.
Q. Were you asked to review and critique any of those testimonies in the exhibits before they were filed?
A. I was not.
Q. So you were only reviewing them after the fact, after they were filed?
A. Right.
Q. All right. And remember, sir, the other conversation this morning, you're under oath.

So you have no -- okay. You agree that, for example, when Mr. Kelley or other company witnesses used that acronym ROC that typically refers to the retail operating company?

A. That would be my general understanding, yes.

Q. That's commonly used at Southern; right?

A. It is used. I don't know how common it is, but it's used at Southern.

Q. Okay. At points in today's conversation, I might also refer to the retail operating companies as sister companies.

Can we agree to that?

A. Okay.

Q. Okay. And you hold primary responsibility, as you testified, for supplies side, resource planning and development for Southern Circulated System?

A. That's right.

Q. The system we were just talking about.

And you've held your supply side responsibility since 2009?

A. That's correct.

Q. And you do not communicate with Alabama Power's customers as part of your job responsibilities?
A. That's not part of my responsibilities.
Q. Do you know if other Southern Company services, colleagues of yours, have that responsibility with respect to the retail operating customers -- retail operating company's customers?
A. Just to clarify, you're asking if I know if there is anyone at Southern Company Services who talks to the customers of the operating companies?
Q. Let me just tweak that question and make sure that I that get the point across, which is whether -- like you hold primary responsibility for a certain subject, whether there's someone at Southern Company Services who holds primary responsibility for that type of customer communication that you know of.
A. I can't think of anyone right now.
Q. Okay. So in terms of, for example, the low income residence customers, there's no one who

has that portfolio and that focus at Southern Company Services?

A. Not that I can think of right now.

Q. Okay. And just so that we're clear, Southern Company Services is technically a consulting arm of Southern that helps with relevant analysis for the retail operating companies; correct?

A. That's part of what we do. That's right.

Q. Okay. So do you know if the Southern Company Services doesn't provide that kind of a low income residential focus consulting support, the retail operating company, if there's another entity that does so?

A. I'm not sure, but, you know, the operating company could do that.

Q. Do they, to your knowledge, from 30 years of working at Southern?

A. I don't know.

Q. You don't know.

Would it surprise you if they didn't have that?

A. I'm sure that we talked to our customers,

but I'm just not sure exactly how that process would work.

Q. Okay. But in terms of upper management's priority, you're privy to those given your senior role within Southern Company Services, are you not?

A. My focus, again, is on the supply side technology for our companies, and so that's a long way really from a residential customer. I'm trying to provide service at the lowest appropriate cost to them, but my focus is on utility scale and generation.

Q. Right. But in terms of -- isn't it your responsibility to serve all customers?

A. Right. But the resources that we deploy are for serving all customers. That's right.

Q. So you don't make it your practice to inquire specifically into the impacts of your recommendation to retail operating companies, like Alabama Power. You don't advise them on the subject of the impact to low income residential customers?

A. I do not.

Q. Do you know any of the company witnesses who holds such an analytical role focused on low income residential customers?
A. I'm not aware of one who would be.
Q. Your rebuttal testimony refers to Alabama Power's claimed needs; correct?
A. That's right.
Q. Actually, before we go down this line, are you a Southern shareholder?
A. I am.
Q. Could you state for the record approximately how many shares you hold or have access to?
A. Well, I don't know explicitly. I think it's approximately 5,000 shares.
Q. And you yourself are not a low income customer of any of the retail operating companies?
A. I wouldn't think that.
Q. Okay. Sir, you did not perform any part of the analysis of Alabama Power's claimed needs in this case, did you?
A. I did not.

Q. Nor did you verify their analysis?
A. I did not.
Q. And to be clear, intercompany interchange contract is not in any way part of your job responsibilities or duties either?
A. It is not.
Q. Are you offering an opinion as to the cost efficacy or the need for any other resources in the petition besides Barry 8?
A. I am not.
Q. And that's because you were not asked to do an analysis on those other resources by Mr. Kelley?
A. That's right. I was asked to provide an option of new generation for Alabama Power Company, and that's what we have done in Barry 8.
Q. So given the breadth of your supply side responsibilities, they didn't consult at all on those other supply side resources that they're including in the petition?
A. I think our team performed some due diligence on the acquisition, because we

understand how those units operate and we integrate them into our system. As far as, you know, analysis, I don't believe we did.

Q. Okay. Just for the record when you say "the acquisition," you're referring to the Central Alabama Power Plant?

A. That's right.

Q. And just remind us, that's a plant in where?

A. I believe that's in Billingsley, Alabama.

Q. Okay. And did you perform any sort of analysis on -- sorry.

What kind of analysis? Specifically, what was that due diligence?

A. It would help with the team that went to actually look at the facility and see how it's operating, ensure that it is sound mechanically, operate sufficiently, those type of things.

Q. And it's your team that also typically reviews environmental compliance issues associated with the supply side resources in terms of the economic screening of those resources?

A. Our team is a development team, where we pull people from experts from across the system. So we would rely on our environmental subject matter experts for environmental-type questions.
Q. Okay. Those environmental subject matter experts, none of them are company witnesses in this case, are they?
A. That's right.
Q. Okay. What are the other subject matter experts that you used in that scope of work that you just identified?
A. Are you talking specifically for building a new combined cycle, like Barry 8?
Q. For starters.
A. Okay. That would include the environmental subject matter experts. It would include a fuel and fuel supply experts. It would be reviewing with our transmission system experts, our siding expert. Those are -- and, of course, our engineering experts as far as the technology itself and its capabilities. It's a broad team, very diverse team.
Q. Anyone else besides environmental

transmission, fuel siding, and engineering in terms of those specific subject matter experts?

A. Well, we would include for a contract like -- for Barry 8, for the EPC contract that we cited, it would include legal overview, include supply chain. It would include site -- direct site expertise. You know, at Barry 8, we have experience both with combined cycle technology, and so those existing subject matter experts would be part of the team as well. So those would all be part of the broader team.

Q. Okay. And just to make sure we all understand, you referred to the -- I think those other terms are clear, but we can explore them.

Supply chain, what does that mean?

A. We have an arm of the company that helps us to ensure that we are efficient in how we go to the market for acquiring materials, and that group helps us in that regard as we develop projects.

Q. So it's a little -- you were saying how you go to the market.

So they do RFP?

A. They help us -- they help us to develop the RFP.
Q. Again, RFP is an acronym for Request for Proposal?
A. That's correct.
Q. It's basically a market solicitation?
A. That's right.
Q. It's usually a written document that goes out to competitive market for these various resources and components that make up those resources; is that right?
A. That's right.
Q. Okay. And there's other services too that you might get, such as engineering --
A. That's right.
Q. -- about the solicitations.
You testified about the -- about the particular requests for proposal for solicitation in this case, and that concerns the turnkey solutions; right?
A. That's right.
Q. Were you asked to advise the company on the totality of their approach to the procurement

for the resource additions in this case?
A. Could you clarify a little bit what you mean?
Q. That was an inartful question.
Besides that turnkey solicitation that you testified about, are there -- were you asked for input on the rest of the procurement that the company did to identify resources to meet its claim needs?
A. Our focus was really on combining cycle and at the Barry site.
Q. So the answer is no?
A. That's correct.
Q. And help us understand this relationship between the retail operating companies and Southern Company Services.
The reason they're seeking out your services is because you have a specialized expertise that may not reside internal to the operating companies; correct?
A. That's right. We're able to do things as a shared service. We provide that service for all the operating companies, and it actually reduces

cost and enhances expertise. So instead of every operating company having to have their own development team, and they won't develop projects as often as other companies might, we're able to capture some of those efficiencies.

Q. Sounds good. And so at the outset, when a retail operating company approaches you and says there's this evolving potential need issue and they're trying to evaluate it and look for a potential solution, is there a conversation that you have about what are the relevant Southern Company consulting services that may apply to that process to ensure you maximize its efficiencies you were just describing?

A. I think, generally, the operating companies understand what our team does, so I'm not sure there's a need to refresh. And we have relationships with folks at the operating company in that we'll work with them if they have a need.

Q. So it's at their discretion when they come to you for what service?

A. It is.
Q. That was a compound question.
A. That's right.
Q. Both when they come to you and what they come to you for is at their discretion?
A. That's correct.
Q. So that's a one-way direction. You don't tell them, look, you have this issue; we think you need to X, Y, and Z services?
A. That's right.
Q. And is there a formalized prohibition against you advising them in that way?
A. No. We do give them, I think, through our planning process, they understand sort of the generic technology options available, and so they would look to us to have that expertise understanding of those technologies and see the effect that, I think, the generic plan that Mr. Kelley mentioned includes some of those technological options that we would have included as appropriate for planning purposes.
Q. So, again, just to make sure that we're on

the same page in terms, when you say the "planning process," that's the -- I should probably pause.

You were here yesterday and overheard most of the proceedings yesterday?

A. Yes, I was here.

Q. So is it fair to assume that you -- you tell me otherwise, but I'm going to talk about things that transpired yesterday. And if you're not familiar or agree or for some reason you need a clarification, let me know.

A. Certainly.

Q. And so yesterday, the coordinative planning process was referenced. Is that the planning process that you're referring to now?

A. I was specifically talking about expansion plan, but it's part of the coordinative planning process, yes.

Q. So there's a distinction between the planning process for the proposed expansion under review today and the coordinative planning process?

A. Well, a component of the coordinating

planning process would be the development of a specific expansion plan, a generic expansion plan, so that's a component of that process.

Q. But so what makes a planning process coordinated? Is it the retail operating companies are in communication with one another, consulting one another, and having some kind of shared work to develop plans?

Is that what coordination means?

A. There's probably lots of -- there's lots of components that may go into the coordinative process, and Mr. Weathers is our resource planning manager and would be excellent at answering and defining that question.

Broadly speaking, there's a lot of components that go into the plan that we coordinate. So all of the operating companies -- just talking about my area, for example. All of the operating companies, I would communicate with them. Hey, these are the technology options available for, say, simple cycle CT, here are the options available for a combined cycle, and then there's multiple

configurations of those types of technologies that could be available. They all understand. They all agree that why don't we use these as our generic options and that we use them to plan. So all of that is coordinated and understood in the company. So that's part of the plan, and that's the part I would play in the plan.

Q. So it sounds like the coordination happens at the forecasting reserve margin review stage, but not necessarily when they -- the retail operating companies then start to plan for whatever changes may be necessary to meet their target reserve margin; is that correct?

A. I think each operating company is responsible for their own plan.

Q. Okay. And going back to that list that you hopefully identified the subject matter expert at Southern Company Services who make up this, quote/unquote, "team," that's your team; right?

You oversee that team?

A. We -- as far as all the subject matter experts, well, they're not -- they don't

directly work for me. But when we have a project identified, we are the ones responsible for pulling those subject matters experts together and developing the project.

Q. So you yourself may not have the expertise necessary to verify the analysis performed by those various constituents?

A. That's right. We rely on their expertise. For example, transmission planning, I rely on them. I'm not a transmission planner.

Q. So just, again, for completeness then, I think you probably remember, but I believe one of the company witnesses yesterday identified for us that there is no Southern Company Services transmission expert here with us at the hearing; correct?

A. That's what I recall, yes.

Q. In terms of a witness who the company plans to testify.

Same question for fuel.

A. That's correct.

Q. What about siding?

A. No specific customer here for that or

person for that.
Q. All right. What about engineering; no?
A. No.
Q. What about legal?
Is there a legal expert among the company witnesses?
A. We do have counsel here with us.
Q. Indeed. But are they testifying at this hearing that you know of?
A. No, they're not testifying.
Q. And supply chain, I don't know if those were legals. I believe that's under one.
A. No, we don't have a supply chain witness here.
Q. Your rebuttal testimony refers to demand side resources, does it not?
A. I do briefly speak of those in reference to the Rocky Mountain Institute's report.
Q. All right. And just for the record, in case we slip into acronyms again, that institute is often also referred to as RMI?
A. That's right.
Q. But you did not perform any part of the

analysis of the company's demand side or any sources. Indeed, it's still under -- underway, in progress?

A. That's right. Mr. Kelley spoke to that yesterday.

Q. Nor did you verify that in progress analysis or whatever has been completed of it?

A. Again, are we talking about the --

Q. Demand.

A. -- analysis? I haven't verified any analysis.

Q. I believe yesterday Mr. Kelley drew a distinction between demand side resources and distributive energy resources.

Do you have an understanding of that distinction?

A. It's not my area of expertise.

Q. But presumably, if it's not demand side, it must be supply side, and you hold primary responsibilities for supply side.

So presumably, there's some kind of supply side indication to this term distributive energy?

A. That's right. But customers can have resources at their site generally.
Q. Did you, in your generic planning process or otherwise, identify specific distributive energy solutions that the company may use, Alabama Power Company, for the purposes of its needs in this case?
A. No, I did not.
Q. Okay. Does anyone at Southern Company Services hold expertise related to the distributive energy resources and program?
A. Again, there would be a lot of folks that have -- that understand distributive energy resources, and it's really the definition -- can you can define distributive energy resource? That's part of the problem.
How would you define distributive energy resource?
Q. Sir, you're the expert. I would prefer to have you define it, please.
A. You know, broadly speaking, it could be -- it could be generation at a customer site. So that could be anything from a large -- a rather

large 50 to 100 megawatt combustion turbine all the way down to solar on somebody's roof. It's a broad aspect of the types of generation that it could be.

Q. Okay. And as we sit here today, you simply don't know what kind of analysis has been performed either by Southern Company Services or Alabama Power with respect to such resources?

A. That's right. I do not.

Q. Sir, your rebuttal testimony also refers to the supply side renewable resources; is that correct?

A. Can you point to me where you're specifically talking about?

Q. Generally, I mean, throughout you refer to the renewable as part of your critique; for example, Ms. Wilson's analysis?

A. Yes, I did look at renewables that she had in her analysis.

Q. Besides that look, did you perform any part of Alabama Power's analysis of the supply side renewable resources?

A. I did not.

Q. Nor did you verify that analysis that it performed?
A. I did not.
Q. That's not your purview?
A. That's not my purview.
Q. But it's not your purview only because the company at its discretion did not ask you to look?
A. It's not my purview, because generally for those types of RFP, our team is not involved. We would be more looking at if the company wanted to build, for example, a facility. That's our focus, building a facility.
Q. Building supply side renewable facilities?
A. We could help our customers do that. Our company will do that, if they chose to do that. That's right.
Q. When you say "customers," did you in that instance mean --
A. Operating companies.
Q. Have you provided that kind of service to other retail operating companies?
A. We have.

Q. But not to Alabama Power in this case?
A. We have been involved in -- well, not in this case. Absolutely not.
Q. So really, your purview in this case is this limited look at combined cycle gas turbines, like Barry 8; is that right?
A. That's right. It's really a Barry 8 combined cycle.
Q. Okay. And before we get too far into Barry 8, I just want to understand. I know you're not a siting expert, but why -- this is a unit that's being proposed on an existing site near the coast, near Mobile; right?
A. That's correct.
Q. Why that site?
A. Well, that site in particular has a number of attributes that make it very beneficial for adding a combined cycle there.
Q. Could you identify those attributes for us, please?
A. Sure. First of all, it's a cycle that we already own that has available property there. It's a site that has existing infrastructure

available both from transmission interconnect opportunities as well as a site on the gas system, generally speaking, that has lots of flexibility and provides a low-cost option there as well. It's actually a site that we have existing combined cycle, so we have a level of expertise with that technology already at that site. So those are some of the reasons that made it an attractive site.

Q. And what about -- kind of all of your eggs in one basket, are there any risks associated with putting multiple generators at one site?

A. There are risks of having multiple generators at one site, but it's a risk that we deal with all the time. We have that across the system. We have multiple generators at single sites across the system, and we're able to manage that risk.

Q. So besides the fact that you've done it before, do you have any other way to reassure the commission that that, in fact, is necessary and least cost to site Barry 8 adjacent to these existing units?

A. Could you clarify your question? I'm sorry.

Q. Well, let's try this first.

MS. CSANK: Madam Reporter, would you please read back the question?

(Whereupon, the court reporter read the requested portion of the record.)

Q. Sir, that was a compound question, so let me break it up for you.

You identified in your earlier answer that you -- that Southern has sites where it locates multiple generators; right?

A. That's correct.

Q. Okay. And besides that fact, what other facts or documents do you have of analysis of the risks associated with siting Barry 8 at that site of existing generating units?

A. I don't have any documentation that was done.

Q. But given the breadth of your experience and as a resident of Alabama, you're aware that Alabama, in particular the coast, is vulnerable

to extreme weather events, is it not?
A. Certainly, we do have extreme events, extreme weather events.
Q. And you have personal knowledge and experience that such extreme weather events have happened?
A. That's right.
Q. Okay. But you're not aware of any analysis performed about the Barry site's vulnerability to such extreme weather and flooding, et cetera?
A. Not specifically, no.
Q. Okay. So the commission in this case has no information from the company to reassure it about the magnitude or the impact of those types of risks; right?
A. Not specifically, no.
Q. Okay. And just for the record, to the extent you know, similarly, there's no comparable siting risk analysis in the company's case for Central Alabama or Hog Bayou?
A. I'm not aware of anything in there.
Q. And just to round out why that might be helpful to the commission, again, giving your

breadth of experience on the supply side, extreme weather can cause outages in the summer or the winter; right?

A. Extreme weather could cause outages whenever that weather occurs. It doesn't necessarily cause outages, but it can.

Q. So for example, sir, are you particular with the Hurricane Florence and gas unit in North Carolina that it took out?

A. Not specifically, no.

Q. Would it surprise you that a hurricane like Florence could cause a steam generator or a fossil -- strike that.

Would it surprise you that extreme weather, such as a hurricane, would cause a combined cycle generator to have to go offline?

A. It wouldn't surprise me, no.

Q. But you have no analysis, again, of specifically those types of risks associated with Barry 8?

A. Not specifically, no.

Q. So Barry 8 traces back to a vendor approaching you in 2016 with a fixed price

turnkey combined cycle project proposal.
Do I have that right?
A. That would be the genesis of the idea behind the fixed price turnkey originally, yes.
Q. And so it struck you as an interesting proposal; right?
A. Yes.
Q. And did you shop it around to other retail operating companies?
A. Yes.
Q. Did any of them pursue a fixed price turnkey combined cycle project proposal?
A. No.
Q. But Alabama Power did?
A. Well, Alabama Power was the first operating company that had an identified need, and so they were the first to pursue this as an option.
Q. And this 2016 proposal y'all got, that didn't correspond to any particular capacity deficit on Southern System?
A. It did not.
Q. Or any particular capacity deficit on Alabama Power system?

A. No, it was generic. We were approached just generically by one of the equipment manufacturers.
Q. Okay. And that 2016 proposal informed your work for the company when they came to you in 2017?
A. I think that's right.
Q. And you all still did not have any particular capacity deficit in mind at that time?
A. Not necessarily. I mean, we understood that the system was dealing with winter liability type issues, and so we understood that there could be a deficit.
Q. So you solicited more proposals like that 2016 proposal from original equipment manufacturers, OEMs; right?
A. For the solicitation for Barry 8, yes. What we did is we went to the market through OEM for that particular site for a particular type of configuration of combined cycle.
Q. And you also had a particular date range in mind for when you wanted that in service; right?

A. That's right.
Q. So you were capturing the snapshot of what the market could provide with those constraints and nothing beyond that because that's the nature of the solicitation?
A. That's right.
Q. So you can't say, for example, what kind of pricing or performance attributes may be available, say, in the '24/'25 time range?
A. No. That's not what we went to the market for.
Q. Nor could you provide information about such attributes that far out in time?
A. No, I don't have that information.
Q. But we can agree that generally technology is improving in terms of its performance and price?
A. The cost of the technology generally has, but I think, as Mr. Kelley mentioned yesterday, supply and demand has a significant impact on what you might pay for a particular technology or configuration. And so as you deal with changes in the marketplace, identified needs by

utilities for more generation, that has a tendency to cause prices to actually go up even if the technology itself could be less costly and more efficient.

Q. And specifically, in terms of the OEMs for gas burning resources, there's been some big news in that sector; hasn't there?

A. There has.

Q. There have been large layoffs and contractions of the support services offered for those types of resources, has there not?

A. I'm not sure with large layoffs, but I understand there has been some contraction in that area.

Q. Okay. And those might also impact the price, not just of the initial capital spent, but eventually kind of components and maintenance down the line over decades of these long life assets; no?

A. I think there is a lot of things that actually can affect things over time.

Q. You have no documents analyzing those types of risks for this commission, do you?

A. We do have some protection for particularly in Barry Unit 8. Not only the construct of the EPC agreement for constructing the unit, but we also negotiated simultaneously a long-term service agreement that has those -- some protections in it. So we have protections for our customers for an extended period of time through the negotiation of that contract.

Q. Okay. But do you have comparable risk management as you described to that negotiation in that agreement for Central Alabama and Hog Bayou; do you know?

A. I don't know.

Q. And what about beyond that agreement? Do you have any other analysis of those types of risks we just talked about?

A. I don't.

Q. And if you don't have it, the other company wouldn't either?

A. Not that I'm aware of.

Q. So back to your turnkey solicitation in '18, January 2018, you went out to the market; right?

A. That's correct.
Q. And you received final proposals in August 2018?
A. That's right. We'd seen final proposals in August of 2018.
Q. And to be clear, I think this is clear, but just to make sure, this is different from the capacity RFP that was referenced yesterday?
A. Yeah. This was done outside of RFP to provide an option for the company to compare the RFP options against.
Q. And you're familiar with Mr. Kelley's exhibits to the capacity RFP itself, the document?
A. Maybe not the detail.
Q. But at one point you reviewed it after it was issued. You weren't consulted prior to it?
A. That's right.
Q. And we were talking earlier about an efficiency. So why would you have two solicitations if you were already -- or if the company was already confident that the terms of the capacity RFP were clear enough to the market

to identify the company's projected needs and to properly solicit market solutions to those needs?

A. Well, it's two separate processes. And really, it's a risk issue, I think, the company is dealing with. So, for example, you don't know what the company is going -- what the market is going to provide from a solicitation for capacity. That is different than the solicitation that we went through.

We went through a solicitation for an option to build a physical combined cycle, and so that physical combined cycle option then became something the company could compare to other alternatives in the marketplace. And not knowing what those alternatives in the marketplace would be, this is -- you know, this became an option, and after evaluation done by Mr. Looney, it was identified as a very economic option providing significant value to the customers of Alabama Power.

Q. But you didn't perform a comparable fixed priced turnkey solicitation for renewables, did

you?
A. I did not, no.
Q. Nor did the company, as far as you know; right?
A. No. I think Mr. Kelley identified yesterday that for a capacity need in the winter, that renewables would not provide capacity available.
Q. Let's put capacity to the side for a moment, and we can come back to it.
But you just identified for us this potential benefit from a separate distinct process to go and give the market additional information about what kind of solution you may want; such as, a fixed priced turnkey proposal, but you limited that effort to combined cycle generators, did you not?
A. I'm talking about Barry Unit 8.
Q. Yeah.
A. And so for the Barry site, our team was charged to identify the appropriate combined cycle at that site, and that's what we did.
Q. So you also can't speak to fixed price

turnkey proposals at other sites and what the economics of those would be?

A. We did not engage the market for that.

Q. And I think we've already said this, and your counsel, I'm sure, will object if it has been asked and answered, but you do not have analysis based on market solicitation for a comparable turnkey fixed price solution that involved renewables; such as, solar panel batteries, do you?

A. I do not, no. That wasn't what we were charged to do.

Q. And so far as you're familiar with the rest of the company's pre-filed testimony exhibits, you don't know of anything like that in those pre-filings?

THE COURT: He's here to testify just about Barry 8, as I understand; right? Let's keep the questions specifically to what he's here to testify about.

MS. CSANK: Thank you for your indulgence, sir.

BY MS. CSANK:

Q. And again, to the scope of your specific analysis, sir, that did not involve a review of existing resources on the company's system?
A. No, it did not.
Q. Sir, you made some pretty broad statements about the cost efficacy of Barry 8 in relation to not just the company's system but the Southern regulated system; correct?
A. That's right.
MS. CSANK: Okay. And working off of those statements, I ask for a little bit of latitude from Your Honor, Judge Garner, to ask this line of questions.
BY MS. CSANK:
Q. So you do have knowledge, of course, of existing resources on the Southern System?
A. Yes, I do.
Q. But you did not perform any analysis of existing resources on that system for the purposes of this case?
A. I did not.
Q. But you do know that currently combined sister companies have roughly 45 gigawatts of

capacity?
A. That sounds right.
Q. Currently combined sister companies also have roughly one gigawatt of solar?
A. That seems approximately maybe somewhat larger now. It's a little bit more now.
Q. Why do you say that?
A. Because I think I heard Mr. Weathers yesterday mention a 1,300 megawatt, but that's still close to a gigawatt.
Q. And do you know, as we sit here today, how much solar is planned in the next coordinated planning process by the sister company beyond that 1.3 gigawatts?
A. I couldn't say specifically.
Q. Okay. Likewise, combined, the sister companies have roughly one gigawatt of wind?
A. That seems right.
Q. By contrast, Southern Power, which we established yesterday, as a Southern subsidiary has more than 4,000 megawatts of renewables?
A. That's my understanding, yes.
Q. Southern Power is not regulated; right?

A. No, that wouldn't be my understanding. They are regulated.
Q. They are regulated?
A. Yes.
Q. By whom?
A. By the FERC.
Q. Okay. Federal Energy Regulatory Commission?
A. Yes.
Q. Not by the State Regulated Utility Commission?
A. I don't believe so.
Q. Southern Power shares its resources with sister companies, like Alabama Power?
A. It's my understanding that there are certain units that Southern Power has in the southeast that are included in the pool for economic dispatch, but that would not be all of their resources.
Q. Explain.
A. Southern Power -- again, I'm not an expert on Southern Power, but they have resources, as far as I know, in California, in Texas, North

Carolina. So those resources would not be part of the pool.

Q. Do you know how much of that 4,000 megawatts is accessible to Alabama Power?

A. I don't.

Q. Now, let's turn to the timing of new resources, like Barry 8.

And when was Barry 8 selected -- when was this site for Barry 8 selected?

A. As I recall, in late 2017.

Q. Do you recall a particular person who selected that site?

A. No.

Q. Was it a team of individuals?

A. It would be -- our team would have done screening of a number of a different sites and a number of different technologies to come up with the most cost effective site for Alabama Power.

Q. So your team keyed up the analysis. And who was the decisionmaker?

A. For the --

Q. The site selection.

A. -- the site itself? We would have reviewed

it with the entire company, with Alabama Power, to make that decision.

Q. So senior management, presumably, they made that decision.

Was there a particular individual?

A. I don't remember if there was a particular individual.

Q. In your experience bringing the new combined cycle unit online into service including planning, permitting, and procurements takes approximately five years?

A. Every site would be different, but that's approximately correct.

Q. Or it could be done faster?

A. For a combined cycle, again, possibly.

Q. Have you seen it done faster?

A. Not generally for us, no.

Q. Okay. What about for others?

A. I'm sorry?

Q. What about for others?

A. I don't really keep up with how others do theirs.

Q. So you don't perform a benchmark analysis

to ensure that you're kind of keeping up with the pack?

A. As far as?

Q. The way you select and evaluate and implement supply side solutions for your customers.

A. Every resource is going to be very different in how it's deployed. The site is all very different and the cost associated with that are very different. So what we try to do is provide a low-cost option or least cost option for our customers, and that's what we did in this case.

Q. But in terms of that broader question on benchmarking and in measuring and managing, how you compare in terms of your supply side procurement of utilities, you have no documents, such as benchmark analysis, do you?

A. I don't.

Q. Bringing a new combustion turbine online including planning, permitting, and procurement may take slightly less, approximately four years; is that right?

A. For a combustion turbine, in that general time frame.
Q. Okay. And for the combined cycle unit that you're focused on, Barry 8, has permitting been completed?
A. Some aspects of permitting have.
Q. What aspects?
A. We have permits from the Corp of Engineers, and we have submitted an air permit, but that has not been completed.
Q. And why would you need a permit from the corp?
A. For -- one issue may be for wetlands mitigation.
Q. So wetlands impact building Barry 8?
A. It's a very minor wetland impact, yes.
Q. But you don't have any documentation to substantiate how minor?
A. Those were all provided for the permit, through the permit process, to the Corp of Engineering. It's in their authority to give us that permit, and they have.
Q. Do you have any documents in this case that

show the commission that you've minimized the environmental footprint of Barry 8?

A. No. What do mean by minimizing environmental footprint?

Q. What does that mean to you, sir?

A. I was thinking about the size of the site -- the footprint of the site itself is what came to my mind.

Q. You mean the physical area?

A. That's right.

Q. Okay. So thank you for making sure we're clear.

And with that understanding of environmental footprint as the area that Barry 8 and its associated facilities will use, same answer?

A. That's right.

Q. What about a broader question then to you, which is the full range of environmental impacts, land, air, water, do you have documents of having, in fact, minimized those types of impacts at Barry 8?

A. No.

Q. The expected life of a generic combined cycle unit is 30 or more years; right?
A. A generic combined cycle we would say has an expected life of 40 years.
Q. And what's that based on?
A. It's based on engineering studies, our understanding of the technology itself, and the historical operations.
Q. So technically, it's feasible to live that long for combined cycle generator; is that --
A. That's right.
Q. That's what expected life means?
A. Right.
Q. So for example, for economic reasons, it may not live that long?
A. Our expectation, all the evaluations that we've done for Barry 8, there is -- its expectations that will live for 40 years and be economically beneficial to our customers for all 40 years.
Q. But that wasn't my question.
MS. CSANK: Madam Reporter, can you read back my last question?

(Whereupon, the court reporter read the requested portion of the record.)

Q. Let me try it again.

I wasn't yet getting into your expectations for Barry 8 specifically. Rather, I was in the generic sense asking you, sir, about whether a combined cycle generator due to economics could be retired earlier than its expected life.

A. Is there a particular type of economics that you're referring to?

Q. Well, again, sir, I'm looking to you for expertise. I'm just a lawyer.

What kind of economic conditions might cause a combined cycle generator to be retired before the end of its expected life?

A. Again, in our analysis, generic combined cycles operate through the time frame in which we've evaluated them. So we don't see an economic impact in that area.

Q. And just to make sure I understand that statement, you're saying that in the context of Barry 8 specifically?

A. Specifically, and then just generally, in our generic analysis, we find combined cycles to be economic long-term.
Q. There's a lot of input that go into the specific analysis or generic analysis; right?
A. That's correct.
Q. And you're not presenting any of that generic analysis in this case, are you?
A. No.
Q. So there's no way for the commission to verify the generic analysis that you just described?
A. I think if you look at the Alabama Power's expansion plan, their IRP, generically, you see combined cycles interspersed in that analysis.
Q. What does that tell us about the cost efficacy, though, of those generic units? Not much according to Mr. Kelley, but that was just the benchmark; right?
A. That's right.
Q. So just back to this question of expected life versus potential futures where a generic combined cycle generator may not live out its

expected life economics can you agree might be a reason, even though you don't think that's one right now?

A. Again, if there's a particular type of economics that you're talking about, but --

Q. Let me try it. So in terms of --

A. We use economic evaluation when we look at the benefit of the resource and a cost of resource.

Q. So rather then talking in the abstract, let's go back to Barry 6 and 7. You're familiar with that combined cycle technology that's located currently at Barry?

A. Yes.

Q. And you at least have some familiarity with the process -- the approval process for getting this commission's approval for those units, do you not?

A. Very, very generically.

Q. And you were here yesterday when we were discussing this commitment by the company that was included as a condition of approval by the commission to have shareholders there that

stranded assets risks associated with Barry Unit 6 and 7; right?
A. I was here when that discussions happened, yes.
Q. So with that understanding of a potential economic reason for retiring a combined cycle generator before the end of its useful life, do you have any -- do you agree that there might be such economic reasons for early retirement?
A. I think in the instance of Barry 8, which I'm here to talk about, it would be very unlikely.
Q. All right. And it could also be legal reasons -- right? -- why a combined cycle generator would be required to retire earlier than expected?
A. I assume there could be. Do you have a particular type of legal issue you're talking about?
Q. Well, have you, sir, performed an analysis or had cause to be performed an analysis of such legal risks -- regulatory risks?
A. No. The company did perform a series of

evaluations and scenarios for Barry 8 and found it to be a very economic option. So there was a range of evaluations performed.

Q. And what you're referring to just then, that's the analysis presented by company witness Looney?

A. That's correct.

Q. Anything beyond that for the commission?

A. No.

Q. So as we said earlier, you focus on supply side resources; correct?

A. Yes.

Q. And you're good at your job; right? You've been promoted and assigned more responsibilities?

A. I would like to think so, yeah.

Q. For more than a decade, you have monitored the market for supply side resources that are available to Southern's regulated system; correct?

A. That's been part of my responsibility, yes.

Q. Okay. And based on that responsibility and that experience monitoring the market, you know

that costs are changing all the time in the market of supply side resources that are available to the retail operating companies; correct?

A. That's correct.

Q. And you agree that it's not just the capital costs that you look at when trying to make sure you are providing the best value for customers. You have to look at everything?

A. That's right.

Q. But obviously, you can't look at everything, so there must be a way that you figure out what are the relevant material factors that are going to impact the cost of potential resource solutions; right?

A. That's right.

Q. And how do you go about going from the desire to be circumspect to a practical analysis that really hones in on the key risks and the key cost components of your resource planning and procurement?

A. Again, you may want to talk to Mr. Looney. It sounds like those risks are ongoing,

long-term risks that you're talking about. For us, we were looking at the risks comparing a combined cycle technology with the in-service at a particular point in time between one manufacturer's resource and another manufacturer's resources. That's what we did here for Barry 8.

Q. Okay. So you're not offering an opinion or -- you're not offering opinions about the full set of costs and risks associated with Barry 8, are you?

A. No. I provided information as far as the viability to build, construct, own, and operate a unit like Barry Unit 8.

Q. But in terms of operation, what exactly are you offering as opinion or support?

A. It would be the long-term service agreement that we had with the resource when it goes in service.

Q. Anything beyond that?

A. No.

Q. So, sir, when Barry 6 and 7 asset risks were committed to shareholders, how were you as

a shareholder given notice of that decision; do you recall?

A. I don't recall at all.

Q. As a shareholder, have you had any -- have you received any communications about Barry 8 from the company?

A. I don't think I -- I haven't directly, no.

Q. Investor presentation, for example?

A. I haven't reviewed investor presentation. I would think it's likely that some communication may have occurred in that regard, but I don't know.

Q. So yesterday, I had a brief conversation with Mr. Kelley about this construction work in progress docket.

Do you recall that?

A. I recall.

Q. He pointed to you as maybe someone who could explore that a little further, and I'll keep it short, I promise.

You may recall me asking Mr. Kelley about this term "total project." Does that mean anything special to you?

A. Not particularly, no.
Q. Okay. So far as you know, total project simply refers to the scope of work for engineering, constructing, and procuring Barry 8 up to the point of it being in service in the fall of 2023?
A. That's how I would think about it. That's one way definitely to define it, I would think, of those terms.
Q. That's how the term project has been used in communications within Southern?
A. Generally, we talk about in-service costs. And so if that's the context, then those are the -- that's the cost you mentioned, are the in-service costs.
Q. But that's the project?
A. Right.
Q. The project isn't the 40-year operations beyond that in-service date?
A. It depends on the context and use of the word "total project."
Q. Okay. So you don't have a cost estimate for that additional 40 years once the unit comes

online, do you?
A. I don't have the specific cost estimate, no, but that was considered in Mr. Looney's evaluation.
Q. So far as you know, in terms of the analysis the company has provided to this commission, it's limited to what Mr. Looney is offering?
A. That's my understanding with regard to Barry 8.
Q. And I don't want to clear the room.
In your direct testimony, you refer to the estimated in-service costs of Barry 8, and it is what is it is, that figure.
Do you know when that estimate was first provided to the commission and staff?
A. When that estimate was first provided to the commission staff, I don't know.
Q. When was that estimate first provided to the company by Southern Company Services?
A. We -- I think it would have been in May of 2019. Once we received information back from the marketplace of some options and finalization

options that we have requested, I think our final update would have been available.

Q. Okay. And again, that cost, in your direct testimony, gets Barry 8 to the point where it is available to run nothing more; right?

A. That's right. That's the in-service cost.

Q. Okay. And what is the status of Barry 8 in terms of physical alterations at the site; do you know?

A. Not very much physical alterations, and specifically, for the Barry 8 component, there really is no activity at all at the site.

Q. But I believe, at your deposition, you described an access road as being built?

A. That would be infrastructure. It's another component of the EPC. Sorry. I don't mean to confuse you. But a component of the contract is that doing infrastructure work for us, so there has been actually some very minor work there, but more work will be ongoing through the development. It's really just very limited preparatory work and infrastructure work for access in and around the site is what's going

on.
Q. And so infrastructure besides the road, are there other associated facilities that are already being procured components, you know, being moved to the site that you know of?
A. No.
Q. And even so, can you give us, again, without verbalizing confidential information, a ballpark of how much has been spent to date on Barry 8?
A. A limited amount.
Q. Can you say whether it's in the millions of dollars?
A. I don't know how much, what level of confidentiality, what level we have, but it's -- it's, again, limited work just for preparatory.
Q. Okay. We can come back to that and talk about it in a confidential setting, if you think.
So you do not know whether the fuel costs for Barry 8 over its 40-year expected life would be more than the project cost a year?
A. I think Mr. Looney would have done that

analysis.
Q. But you, in terms of identifying and evaluating and moving forward Barry 8 as you have, don't have that information?
A. I don't.
Q. So your testimony that the, quote/unquote, ultimate cost of Barry 8 is, quote/unquote, reasonably reflected in the estimated in-service project cost that you provide, it's nothing more than an opinion about that in-service cost; right?
A. When you say "nothing more than an opinion," what do you mean by that?
Q. Forgive me. You testified about the ultimate cost of Barry 8.
A. Right.
Q. And, I guess, I'm just trying to clarify. By ultimate, you really just mean the in-service estimated cost?
A. That's right.
Q. You're not talking about the totality of the cost associated with Barry?
A. No, I'm not.

Q. You are aware that the commission in this case may choose to grant the certificate for just some of the proposed resources and not all of them?
A. Yeah. I would think the commission has purview to make that decision, absolutely.
Q. Okay. And so have you participated in any planning for the event that the commission decides to deny Barry 8?
A. I have not at this point.
Q. Have there been discussions about starting to make such plans even if that planning hasn't begun?
A. Not with me. No discussion with me.
Q. Wouldn't it be prudent to have those kind of contingency plans?
A. Well, I'm not saying the company doesn't have contingency plans. It's just for the work we do, where we provide a resource, it takes a long time for that process to happen. So if the commission were to deny this, then another process to start up could take years and could delay Barry 8 longer than the company has a more

specific immediate need. And so delaying Barry 8 then, would require a need. I could not build four in that timeframe. That could be the impact of it. I don't know specifically if it would or not, but...

Q. But in terms of the agreement that you have with some vendors for Barry 8, that agreement has a timeline; right?

It sort of interim dates that were anticipated as part of the project; right?

A. That's right.

Q. And because this is a contested proceeding, you all haven't gotten the decision from the commission that you were expecting on the timeline in that agreement, have you?

A. We definitely don't have the commission's decision yet.

Q. So what are the implications for that timeline in the agreement?

A. The implications are we will continue to work with the consortium to make decisions on how we go forward. You know, our goal would be to -- we see Barry 8 as a very economic option

for our customers, and so our goal really would be to move forward and see if we can make sure we keep it on target for the in-service by November 2023 and limit costs as much as possible.

Q. But so in terms if the commission were to say that, you know, it wanted some additional analysis from the company to really reassure that the economic make sense or there is a need, as we sit here today, do you know whether that November '23 target in-service date could be met, if such an additional analysis were performed?

A. I'm not -- I don't know why it couldn't be.

Q. Okay. But you don't have any concrete analysis of how much flexibility there is in that timeline, do you?

A. No. But the way we laid out the structure was that you have minimal work. You identify the limited amount of work that you can do to ensure that you can still meet that November '23 deadline. And that is the focus to minimizing those costs, but doing the things that need to

be done to ensure that we can get that target.
Q. And generally speaking, you can expedite a construction timeline. It's just a matter of additional costs for expediting?
A. Generally, you would expect to pay more if you plan to expedite. That's right.
Q. But as we sit here, you don't have a range to present the commission of how much expediting could be done and at what incremental costs?
A. No, I don't.
Q. But you could readily perform such analysis, if requested by this commission?
A. That evaluation could be performed.
Q. And do you, sir, have a position on or an opinion about whether the economics of Barry 8 would still work for the company if it were to take on the stranded asset risk as proposed by Sierra Club witness Wilson?
A. I don't see Barry 8 as having stranded asset risks if we were -- the company or our customers.
Q. Explain.
A. Again, in the analysis work that we have

done and performed, the ongoing costs are less than the ongoing benefits of the resource. It shows significant value through time for our customers.

Q. So if you're so confident in your analysis, then why not have shareholders take on that risk?

A. I think Mr. Kelley talked about this yesterday. I can represent that Barry 8 is going to be an efficient resource for our customers, and it will be really more efficient than any other resource, any other thermal resource, on the Southern system, so from a stranded cost risk is very low for Barry 8.

Q. So I understand why you would say that as a shareholder, but is there any way in which Southern tries to address a potential conflict of interest with employees who are shareholders but also tasked with seeking least cost solutions for customers?

A. Could you maybe clarify your question just a little bit?

Q. Is there a protocol? Is there some kind of

Southern protocol that checks a potential bias by employees, such as yourself, who is a shareholder, who is supposed to be performing analysis in the interest of customers?

A. Sure. I think in this particular process, there was a built-in check. Because, remember, I independently identified a project at the Barry site for a combined cycle, and then I gave that information, that cost information of performance information, to someone else, and then they independent of me evaluated that against other options available in the marketplace. So I think that independence by itself is a way that is a check.

Q. Okay. And specifically, you gave your work product to Mr. Looney?

A. To his team. That's right. The performance evaluation.

Q. Anyone else who was independent in terms of the check?

A. Mr. -- I think Mr. Kelley was involved in that process as well.

Q. Anyone else who is --

A. I don't know who was all in that process.
Q. Okay. So I think I heard you just not give an opinion on whether the commission should condition approval on company shareholders taking on the stranded asset risks for Barry 8; is that right?
A. Yeah. I don't see a significant risk. I don't see any risk for Barry 8 on the stranded asset perspective.
Q. But as far as my question, which was about your opinion about Ms. Wilson's recommendation that the commission, should it decide to approve Barry 8, should condition that approval on shareholders bearing the stranded asset risks, you do not have an opinion on that, do you?
A. The commission has a wide purview in this case to make decisions as they see fit.
Q. Is that a yes or no, sir?
A. You know, the commission -- again, I would leave it to the commission.
THE COURT: Just give an answer, and then you can give your explanation on the answer. Let's do that, because we're going to

be here all day, if you don't.

THE WITNESS: Sorry, Your Honor.

BY MS. CSANK:

Q. So is that a no, sir?

A. No, I don't think that --

Q. You don't think what, sir?

A. I don't think that the company should take stranded asset risks.

Q. And what's that opinion based on?

A. Again, it's a low risk for the asset to happen, but it's -- the asset is being built for our customers, and they get all of the benefits from having the asset built for them.

Q. And when you say "all the benefits," you're aware that Mr. Kelley identified that predominately those benefits consist of fuel saving; is that right?

A. I know that he said there was fuel savings. Whether that was the predominate benefit or not, I don't recall, but maybe depending on these evaluated scenarios.

Q. Well, what's your opinion - let's put aside Mr. Kelley -- of what the main driver, what are

the main drivers for those significant savings that you just referred to?

A. I would think they would be energy and capacity savings.

Q. So let's break that down. Energy savings, is that based on fuel savings?

A. That's right. By running this resource, you don't run other resources that are more expensive, and that savings is a benefit to our customers.

Q. Do you have any analysis to provide on whether those other resources are going to be remain in use to the customers as a result of adding Barry 8?

A. The company needs all of those resources in order to meet its capacity requirements. And so what's happening is you're adding both a capacity resource in Barry 8 and a very low-cost energy resource. So it's able to defer capacity and get that benefit and provide savings of fuel that doesn't have to be burned in other units otherwise for energy.

Q. But you don't have any analysis that

compares Barry 8 to some portfolio of low to no -- excuse me -- low to no fuel cost, low to no carbon-emitting resources, do you?

A. I don't. But Mr. -- again, Mr. Looney provided analysis of several scenarios of operating the unit.

Q. If you miss your March 2020 -- hold on for a moment, sir. Strike that.

Your analysis, sir, did not factor in customers' climate or clean energy commitment, did it?

A. No, not directly. Again, we consider those in trying to evaluate the least cost option for our customers.

Q. What do you mean?

A. I mean, when we're evaluating the different combined cycles available to us at the Barry site, we chose the best risk adjusted value for our customers.

Q. What do you mean by "risked adjusted value"?

A. I mean, you compare capital costs of one resource to another, efficiency of one resource

to another, technology type, historical performance of that technology. All of that is considered when you try to get the best value for your customers.

Q. But I think you've said, and I don't want to belabor the point, but in terms of those factors that you just described, your analysis is limited to comparing combined cycle generators at the Barry site?

A. That right. That's what I do.

Q. Sir, you didn't perform any stranded asset risk analysis other than the analysis that you refer to in your rebuttal testimony in response to Sierra Club's analysis; right?

A. I did not perform stranded asset analysis.

Q. Rather that -- just to be clear, I meant that the analysis on behalf of Sierra Club's expert witnesses?

A. I reviewed that. I reviewed that analysis, yes.

Q. Sir, you've heard of the, quote/unquote, climate crisis?

A. Can you be more specific?

Q. That term, the "climate crisis," refers to changes in global temperature, global sea level rise, other conditions associated with the earth's climate including changes in precipitation, winds, waves and storms, catastrophic weather events?
A. Yes, I've heard of that.
Q. And so far as you know, Southern Company accepts the reality of the climate crisis?
A. I think that the company believes that the climate change is real.
Q. Okay. There's no direct analysis of Barry 8 under Southern's climate goals, is there?
A. No. Because of its efficiency, it will contribute to lowering carbon, a utilization of the production of carbon in our fleet.
Q. Right. But the task at hand is to identify solutions that are least cost. So simply saying that it may be more efficient than the current less efficient system isn't actually establishing that it's the optimal solution, is it?

A. Not necessarily. But again, in this case, the company evaluated a series of options, and it was part of the portfolio, the least cost option.

Q. Okay. And we're getting to the end, sir, I want to reassure. Are you doing all right?

A. I'm fine.

Q. Would you like some more water?

A. I have little more left. Thank you.

Q. In your rebuttal testimony, you refer to carbon capture and sequestration?

A. I mention that, yes.

Q. And you don't have a cost estimate of retrofitting Barry 8 with that kind of technology, do you?

A. I don't.

Q. Just a little bit of cleanup.

On page 3 of your rebuttal testimony -- do you have that with you, sir?

A. I do. One moment, please. Yes.

Q. Okay. You see on lines 11 through 13 where you provide -- I'll read it for the benefit of everyone, and you tell me if I read it

correctly.

"And I expect the industry will continue" -- let me start with the question. That's on line 2 to 6.

"Do you agree with the witness that fossilized generation presents risk such that utilities should move away entirely from constructing new fossil generation, such as Barry Unit 8?"

Do you see that?

A. I do.

Q. Okay. And then, as part of your answer, and I'm going to just skip to this part for the time's sake.

You say, "And I expect the industry will continue to seek transition as technology evolving and the cost capabilities and scalability of those technologies improve."

Do you see that?

A. I do.

Q. And just to clarify, when you say "technologies" there, in your general opinion, that includes all supply side resource technologies that are within your job

responsibilities?
A. It does. Generally, I was focusing on the technologies, like the solar technology and battery technology.
Q. Okay.
A. But I think, in general, you can say that, yes.
Q. And then in the next paragraph, about midway through, you reference this RMI report, Rocky Mountain Institute, and you identify that that report addresses these 68 gigawatts of gas fired power plant capacity that have been announced for operation by 2025.
Do you see that?
A. I do.
Q. And so if -- if all of that proposed gas fired generation is built, you don't know what will happen to gas prices, for example?
A. I do not.
Q. Nor do you know what that buildout would mean for gas supply risks, such as pipeline failures?
A. I do not know that generally, but

specifically, for Barry 8, it is in a very favorable location on our system, and it's tremendous flexibility from a supply perspective, both from a transportation perspective and a supply perspective.

Q. What support do you have for that, sir?

A. What support do I have for that? Well, we have the -- in that region, where Barry 8 is, the firm transportation is available and will be used for Barry 8 today. So that's not an incremental addition that will be required, and so there is that utilization that will be able to use and be grandfathered with us through time through the life of that asset.

Q. Okay. But no documents besides testimony?

A. I don't have a specific document.

Q. And you're familiar with Mr. Kelley's rebuttal testimony, where he identified, sir, in transmission costs associated with adding Barry 8; right?

A. I heard the discussion yesterday, yes.

Q. Okay. And so you don't have analysis one way or another that reconciles how those costs

compare to benefits that you've been describing for us today?

A. Again, the ongoing costs of benefits would have been evaluated by Mr. Looney.

Q. Got it. Okay.

And the -- your evaluation also identified the possibility of building another unit, like Barry 8, at the same site?

A. We did. We did provide an option for the company to do that.

Q. Why that option?

A. Because, again, the site provided some of that availability, both physical siding and infrastructure, for us to be able to do that, and the thought was the consortium would be there building, and it could be some economy scales of providing a second unit at that point in time, and so they gave us that option.

Q. Do you have an opinion about whether the company should proceed with that option?

A. I think the company evaluated in the process and has decided not to move forward at this time as part of the option available to the

company.
Q. So the answer is, no, you don't have an opinion?
A. No.
Q. Sir, if you could be good enough to turn to page 4 of your rebuttal testimony.
A. Okay.
Q. And I think, again, for time's sake, I don't think the question matters so much, but if you need it, take the time to review the question. But I want to direct your attention to lines 15 to 19.
Let me know when you're there and had a chance to review them.
A. Okay.
Q. And for everyone's benefit, I'm just going to read it and make sure that I say it correctly.
"My interpretation of the data shown supports the title statement indicates that advanced combined cycle technology, like Barry Unit 8, are in most instances more cost effective than solar generation and wind

generation in meeting a system's reliability need when evaluated appropriately."

Did I read that correct?

A. That's right.

Q. And what are you referring to there, what data?

A. The data in the EIA report.

Q. You also refer to that EIA or DEIA, the Energy Information Administration.

That's a federal agency; right?

A. That's right.

Q. You refer to that at the top of this morning in your opening statement?

A. I did. That's right.

Q. And what is -- where is the documentation of your analysis, or what's the basis, rather, for your statement?

A. Well, the basis would be -- and I'm specifically discussing the liability needs and renewable generation because of their inability to be fully dispatchable. Like a very flexible resource, like Barry 8, cannot provide the same reliability benefit that resources like solar

and/or wind provide.

There's benefits to solar and wind can provide, but it's just not the same kind as you can get from a dispatchable resource that's flexible, operated at night, day, anytime. That was the basis for that statement.

Q. So you're not opining there about solar and wind paired with batteries, are you?

A. No, not specifically.

Q. Do you have a comparable analysis of such resources paired with batteries?

A. I don't. But I did look at some of the work done by Ms. Wilson and would note that in all instances her portfolio was more expensive from a cost perspective than the examples of the Barry 8 portfolio cost that she had in the work papers. It's not really an appropriate way because of the LCOE to do the evaluation. But her portfolio was more expensive in all scenarios than the Barry 8 portfolio.

Q. But to be clear, besides your critique of Ms. Wilson's analysis, you, yourself, did not perform such analysis, did you?

A. I did not.
Q. And LCOE stands for Levelized Cost of Energy?
A. Yes.
Q. Okay. And you criticized Ms. Wilson and other engineer witnesses for their reference to the LCOE values, do you not?
A. Well, in the context of trying to do a comparison, to do a comparative analysis of one technology, like a combined cycle, to another technology, like a wind or solar, LCOE would not be appropriate to do that.
Q. So the answer is, yes, you criticize them?
A. Yes, I do.
Q. And could you please point me to the extent that you can to where Ms. Wilson or Mr. Detsky (phonetic), Sierra Club witnesses, say that the least cost of energy should be the sole basis for a resource planning decision?
A. I would have to review Ms. Wilson's testimony.
Q. Would it surprise you if they never said that?

A. Well, it would surprise me if the implication of what they were saying was not that the portfolio identified in her testimony was not represented as a least cost portfolio. That would surprise me.

Q. Okay. So let's just assume that - we'll get into Ms. Wilson's testimony, and the testimony is what it is.

But you're aware that the least cost of energy, including the LCOE, is the commonly used tool for screening various technologies, economies screening?

A. For screening like technologies with similar lives.

Q. Moving onto your page 5 of your rebuttal testimony, and there you point to some large combined cycle generators that Florida Power and Light had billed.

Do you see that at the top of the page?

A. I do.

Q. And specifically, you refer to the Okeechobee combined cycle generator and the Dania Beach combined cycle generator, which that

company has a clever way of cloning clean energy efforts.

Do you know what year those projects, Okeechobee and Dania Beach, were approved?

A. I do not know.

Q. Subject to check, would you agree that those were before Florida Power and Light announced its large energy storage project and manatees?

A. I have no way of knowing without checking that, no.

Q. Well, subject to checking.

A. Sure.

Q. Okay. And we established earlier that technology is changing, and for the most part, improving over time and changing fairly rapidly.

Would you agree?

A. In certain areas more than others, but yes.

Q. So even a data point, such as a resource decision that's a couple of years older than another, may be -- may not be representative of the market conditions today?

A. I think that could happen particularly in

the solar realm.
Q. What about batteries?
A. That probably could happen with the battery realm as well.
Q. Okay. And you agree that the larger combined cycle generator is typically, as far as a new, a new unit, that there would be accommodating the scale?
A. All else equal, I would say it would accommodate the scale, yes.
Q. And you identified at the sweet spot or the potentially least cost combined cycle generator would be one such as the Okeechobee project that's at 1,700 megawatts; correct?
A. In my deposition, I did speak that those larger ones, I would generally expect them to be a little more less cost per unit. Overall, obviously, I would say total cost is more greater, but less cost per unit, if you're looking at that.
Q. So the answer is yes?
A. Yes.
Q. And you would also agree that those

resource decisions by Florida Power and Light and the Florida Commission, they also may involve different fuel supply infrastructure costs and risks, et cetera?

A. Yes, I think they would.

Q. And Barry 8 specifically?

A. Yes, I think they would.

Q. And now, sir, if you will turn to page 7 of your rebuttal testimony. And there, you identify several types of risks raised by intervenors.

A. That's right.

Q. You see all four of those?

A. I do.

Q. Okay. And do you have any documents of the company's analysis of risks, such as these, that predate the intervenor's testimony?

A. I believe Mr. Weathers would have some documents in his reserve margin setting related to his idea of overreliance on natural gas, winter reliability, risks caused by natural gas. Again, I'm not an expert in everything he does, but those could possibly be things he considered

in his reserve margin setting.
Q. You didn't verify that analysis?
A. I did not.
Q. And then finally, in your final page of your rebuttal testimony, sir. Please take a moment to just review the preceding question and your answer before I get you to the part that I want to clarify.
A. Which?
Q. Pages 15 and 16. I'm looking at that last question that begins on line 10 of page 15.
And just for the benefit of those who don't have a copy, the questions reads, "Do you believe that the gas resources in the proposed portfolio prevents extended cost risks that should preclude them from being approved by the commission?"
I read that correctly; right?
A. That's right.
Q. Just take a moment, sir, just to review your answer.
A. Okay.
Q. All right. Just to direct you to lines 21

to 22 on page 15 in that carryover sentence in your answer, I'm going to read these, and you tell me if I read them correctly.

For Barry Unit 8 to become a stranded asset, you say, "Conditions would have to exist where fossil fuels generation is no longer a part of the company's need of supply side resources. I do not foresee such a development during the life of Barry Unit 8."

What is the basis for that prediction, that's the final prediction that you made?

A. Sure. I think there are several things that I would say. Number one is we have performed, and Mr. Looney can talk about the analysis, looking in multiple scenarios the operation of Barry Unit 8. In every one of those scenario, the ongoing benefit exceeded the ongoing cost of Barry Unit 8, which I would think, in thinking about stranded cost, that would be part of the equation.

Secondly, I would just look to something as simple as the EIA report, the independent report from the federal government, that shows

significant growth in the utilization of gas and gas resources in the electric industry, and that gross would be an indicator that at least from their perspective, there is no -- they would not see it as a stranded asset, but see the volume of gas go up.

And then, finally, the RMI report itself, it talks about the addition of the evaluation -- it didn't include Barry 8 -- of 63 other combined cycles. So broadly speaking, it would appear to me that other companies that felt like the combined cycle technology is a valuable and beneficial resource long term as well.

So those are the things that would make me think it's unlikely to be a stranded asset, and along with the fact that it will be -- I'm sorry -- that the most efficient thermal resources on our --

Q. And forgive me if I wasn't clear. I was actually not asking you about that.

I was asking you about the company's fleet no longer having fossil fire fuel generation within Barry Unit 8's lifetime.

A. Right. So the idea there was we -- again, because of the efficiency of the resource -- right? -- no other resource would have that level of thermal efficiency. So if you're thinking about stranded costs, then I'm not going to retire a unit that is the most efficient resource thermally. I would have to retire every other resource on the fleet before I got to Barry 8, and so that's the situation that seems like it would have to exist.

I don't know how we would get there, but that's what would have to exist.

Q. I appreciate that, sir. I want to wrap this up quickly, and just bear with me, please.

What I actually driving at was this notion that there will not -- that you expect -- this reference to conditions would have consider to fossil fuel generation is no longer part of the company's fleet of supply side resources.

And maybe the better way to go at this is to ask, how do you reconcile this comment, which is basically that there will be gas fired generation on the rest of the system throughout

this 40-years, from 2023 to 2063, with the Southern Company's commitment to a low to no carbon system by 2050?

Do you need something like carbon sequestration and all those --

A. Those could all -- that could all be a possibility.

Q. Okay. But you don't have any cost analysis of how much that kind of environmental retrospect would be?

A. No. I haven't done that, no.

MS. CSANK: Okay. Thank you very much for your time, sir.

THE COURT: All right. I stand corrected on the order. I was going in the order in which I took appearances, where I had all the 18 names. I have to remember them.

So we did -- for purposes of cross, we have gotten a little bit out of order. Let's go ahead and get back on the established order.

That would be Energy Fairness. Is here any questions from Energy Fairness?

MR. GRIFFIN: No.

THE COURT: American Senior Alliance, any questions?

MS. HOOPER: Your Honor, we don't have any questions.

THE COURT: Thank you, sir.

Alabama Coal Association?

MR. CAGLE: No, sir, Your Honor.

THE COURT: So Energy Alabama/GASP.

MR. JOHNSTON: Yes, Your Honor.

THE COURT: You okay, Mr. Bush?

THE WITNESS: I got my second water.

THE COURT: I got my second coffee, so I'm good.

CROSS-EXAMINATION

BY MR. JOHNSTON:

Q. Hello, Mr. Bush. My name is Keith Johnston. I'm here representing Alabama Energy and GASP in this matter.

We have been introduced previously in your deposition; is that correct?

A. That's right.

Q. You had talked a little bit about this is

the most efficient thermal unit resource in the fleet.

That's your testimony?

A. That's right.

Q. And how much experience does Alabama Power have running one of these J-plants?

Do I have a that correct?

A. That's right. No specific history with the J-combined cycle, but significant experience with the technology. And really, J is an evolution of the existing technologies. It's been around since the 1970s, and so Alabama has significant operational experience with the combined cycle facilities.

Q. But you haven't run this new generation at all?

A. Not the J-class combined cycle, no.

Q. Do you know how many total hours these units have been operating?

A. As of last fall, over 800,000 hours.

Q. 800,000 hours in how many units? Where are those units?

A. These are really global units, and as I

recall, there's about 39 of the J-class units running.

Q. Do you know if any of these units have been operated in coastal areas?

A. I don't know. I'm not aware of any.

Q. Do you know about the specific environmental characteristics of the coastal areas that may make operations of these units unique?

A. It depends how direct -- I am familiar with coastal operations of units and requirements for certain components of a resource, depending how close they are to, say, a saltwater source.

Q. So with the saltwater influence, you also have heavy rain from the coast. You also have the potential for hurricanes.

There's a lot of environmental factors that may affect the operation and efficiency of these units?

A. That right. Every site is unique, and that has to be considered in the development of the facility.

Q. And these model J-units, in particular, are

exposed to air. Partly, the combustors are air cooled?

A. That's right.

Q. And does that make them vulnerable to these weather events in the coast?

A. No. I wouldn't say they were -- they were more vulnerable than another unit. As a matter of fact, the design that we have in place, we try to compensate for those differences in the environmental issues that that unit might deal with. So we included that in the specification for building the facility.

Q. And what does that specification and inclusion include, if you will?

A. Well, it's a number of different things. So it would be everything from temperature requirements to the type of material used at the facility and items like that.

Q. Are there any of these model J-units operating in the southeast?

A. Not at this time. There is one scheduled to come in service just prior to Barry Unit 8.

Q. So we don't have any examples of these

units operating in the southeast?
A. Not in the southeast at this time, no.
Q. Talking about some of the environmental risks associated with operating at Barry Unit 8, we discussed some of the climatic issues.
On this particular site, are you aware of the coal ash issues on the site?
A. I'm not aware of any coal ash issues on the site.
Q. Is there a coal ash pond on the site?
A. Not where we're building the facility.
Q. How close is this facility to the coal ash pond of Barry?
A. I would just have to pull out a site survey and see. I'm not sure.
Q. Less than a mile?
A. That seems reasonable. In a mile to less than a mile, I would think.
Q. And there are operations right now to either cap and close or excavate this coal ash pond?
A. Yeah. I'm not an expert on the facility of what's going on Barry 8 from an ash pond

perspective.
Q. Understood. But there is also infrastructure that you're having to develop down at Barry 8 to get ready for this unit; is that correct?
A. That's right.
Q. And so there has to be some sort of coordination among the company about how they're going to get multiple major infrastructures projects done on this site?
A. That's right.
Q. And is there any documentation of the coordination of this or how this will be taken out?
A. Well, we have coordinators from Birmingham to the site itself, folks there that would focus on -- I'm sure focused on the coal ash project and focused on this project. So because you have site people, the people at the Barry site together working on the project, you should have -- should be no problem with coordination.
Q. So there's no problem at all with major infrastructure projects going on in this area

simultaneously?
A. No. It can all be facilitated and coordinated.
Q. Have you had public meetings with the residents in this area?
A. Not to my knowledge.
Q. Are the residents aware of what the plans are for this area?
A. I'm not sure what the residents would be aware of.
Q. You discussed a little bit on the environmental permitting side on this, and you said there's going to be an air permit.
And you're in the process in getting this air permit; correct?
A. That's correct.
Q. Do you know where you are in that process?
A. It's been within the last couple of weeks that we actually submitted the permit, and so we just began that process.
Q. Within the last couple of weeks?
A. That's right.
Q. So when do you anticipate getting this air

permit?
A. It is not a -- as far as I understand the process itself, there's a number of stages to the process, and so it's no definitive time frame, but our expectations would be early next year.
Q. So do you anticipate getting that in plenty of time before your proposed in-service day?
A. Oh, absolutely.
Q. And what about a Clean Water Act permit?
A. I don't believe there will be a Clean Water Act permit specifically needed for Barry Unit 8.
Q. Do you have a close cycle unit, closed loop cycle unit?
A. That's correct. At Barry 8.
Q. So there will be water withdrawals?
A. Well, the existing plant -- remember, we're building at this plant site, as you noted, and the water permit itself for the existing plant is expected to cover Barry Unit 8 -- will cover Barry Unit 8.
Q. Are there storm water permits -- are there storm water permits that are required for this

site?
A. There are, and we have received those.
Q. You've already received those permits?
A. That's right.
Q. And just to clarify -- I know we've covered some of this material, but I want to make sure the record is clear, and I want to make sure that I'm clear on what's happening.
Vendors approached Alabama Power about this turnkey proposal in 2016; is that correct?
A. No, that's not correct. Actually, we had a vendor approach us in 2016, and --
Q. Southern Company Service.
A. Right. They approached Southern Company Service in 2016. And then through our planning and processes, we identified the need of Alabama Power, and we then approached the vendors with a package in early 2018.
Q. In early 2018?
A. That's right.
Q. So then, in August of 2018, final proposals were submitted?
A. That's right.

Q. And they were submitted to Southern Company Services?
A. That's right.
Q. Were they submitted to Alabama Power simultaneously?
A. We work on behalf of Alabama Power, and so the service -- it's actually Southern Company Services on behalf of Alabama Power.
Q. So Southern Company Services were the only ones who got those proposals? Alabama Power did not get those proposals?
A. I mean, we have Alabama Power Company on the overall team, so Alabama Power had access to all of the proposals.
Q. And in that capacity, RFP was issued in the fall of 2018?
A. That's my recollection, yes.
Q. So similarly, the renewable RFP was issued in the fall of 2018?
A. Again, that's what I recall.
Q. And then your preliminary award letters for the turnkey operation was issued in November of 2018?

A. That's right.
Q. And so in less than six months, it was already a decision to go forward with the turnkey project at Barry?
A. Not at all. That's not at all what happened. The preliminary award letter did not commit the company to anything at all. What it did, it recognized those specific manufacturing equipment and consortium that we would be using, and that's what was submitted into the process for evaluation purposes. So we had no idea whether or not the company offering would be economic or not relative to other market offerings.
So at that point in time, we were really just submitting and making no commitment at all with the consortium.
Q. But you had made a decision about this particular unit at Barry Unit 8? This particular model at Barry Unit, this turnkey proposal?
A. That's right.
Q. And that decision was made by November of

2018?
A. That's correct.
Q. And then you executed the EPC agreement, or the engineering procurement and construction agreement, the contract, in May?
A. That's correct. In May of 2019.
Q. And you also testified in your deposition that in March of 2020, limited notice to proceed had been given to the vendors; is that correct?
A. That's right. The contract has a requirement in March of '20, of this year, they need a limited notice to proceed.
Q. Of course, today is -- what is today? March?
A. 10th.
Q. I lost count from last night. March 10th.
So in light of that statement in your deposition, how does that change the schedule of this project?
A. We really don't expect it to change the schedule at this point in time.
Q. Did you anticipate having an order from the commission on this certificate at that time?

A. Well, obviously, we would have preferred it at this time, but the process that we lay out lays out minimal schedule of payments for us to try to -- we want to identify the minimal amount work that has to be required to ensure that we hit the commercial operation date, so that's really the process that we're in. We can stop at any time at this gated process so we can stop -- choose to at any point in time. So it really hasn't affected our ability to continue to move forward.

Q. I understand that. And this is a new question.

Was this hinged -- was that statement, was it based on getting an order from the commission by March 2020? The statement that limited notice to proceed could be given to the vendors?

A. No.

Q. Do you know when the original hearing was scheduled in this matter?

A. I don't recall. It seems like it was January, but I'm not positive.

Q. You're correct.

A. Okay.
Q. It was January of this year.
Have you ever been involved in a capacity increase of this magnitude?
A. Involved in what sense?
Q. Involved in the generation planning and development?
A. I see. If you're talking about the capacity increase relative to Barry Unit 8, which is my participation, again, what do you mean by --
Q. Let's back up.
Have you ever been involved anywhere in a capacity increase of this magnitude? 2,400 megawatts, part of a package of the 2,400 megawatts of new generation?
A. In my involvement in this case is the 800 -- the 743 megawatt combined cycle Barry 8. The overall package is 2,400, Alabama is requesting certification. I don't recall being involved in a certification requirement of this magnitude, but I don't -- remember, I'm usually specifically focused on the technology, and I'm

not necessarily thinking in the broader terms of 2,400, so I've been --

Q. So the short answer to that is, no, you haven't been involved in a capacity increase of this magnitude.

But you were involved in Barry Unit 6 and 7; correct?

A. If I was, it would have been in possibly some commercials. It was not in planning and development of the project. At that point in time, I was working on the trading floor, and so it could have been some startup optimization work, would have been my only involvement.

Q. Startup optimization work, what is that?

A. When you place a unit in service, you actually have to test that unit, and it produces -- it needs fuel, and it produces megawatt hours. And so on the training floor, we dealt with the optimization of natural gas and electricity, and so we would work the facility to try to optimize the utilization and testing prior to actually going into full service.

Q. And do you know when those certificates were issued for Barry Units 6 and 7?
A. I do not.
Q. Do you know what the status of these units are?
A. Of Barry 6 and 7?
Q. Barry 6 and 7.
A. As far as I know, they're in service and operating fine.
Q. And how long have they been operating?
A. Again, I would be going by memory. I believe it was in either '99/2000 time frame is when they began operating.
Q. Do you know if those units are going to be retired soon?
A. I do not know.
Q. Do you know the nameplate capacity of those units?
A. I don't.
Q. Subject to check, Barry Unit 6 has a nameplate capacity of 535 megawatts?
A. That seems reasonable.
Q. And Barry Unit 7 has about the same?

A. About the same.
Q. So together, those two units are 1,070 megawatts, thereabouts, if my math is correct?
A. Okay.
Q. So that's less than half of the power that's being proposed for this petition -- correct? -- from a capacity standpoint?
A. Yes.
Q. From a megawatts standpoint.
The integration of those two units into the this package, how was that -- in the Barry Unit 8, how was that considered, those two units?
A. So just to clarify to see if I understand your question, you're talking about integrating 6 -- Unit 6 and 7.
Q. Let me just back up. Barry Units 6 and 7 are still operating?
A. That's correct.
Q. And they will continue to operate for -- we're unsure of the specified time.
A. That's right. Expected 40-year life.
Q. Expected 40-year life. If it was 2000, it may be 2040?

A. Roughly.
Q. How was the site choice and the generation and planning incorporated into those two units, considering those two units are in existence on this site, incorporating Barry Unit 8?
A. Well, first of all, those two units are natural gas facilities. And so when we evaluate sites, we look at all of the different components and requirements for adding a resource to the system, and we do consider the gas, and because the gas infrastructure in that reason is so flexible and does provide such a benefit to the resource, that's one of the reasons that Barry 8 was identified as the most economic option for the customer.
So we absolutely considered the gas infrastructure, and we have a plan in place that allows those units to continue to operate with no impact by adding Barry Unit 8.
Q. No impact. When you say "no impact," what do you mean "no impact"?
A. Those units should be able to continue to operate independently without regard to what's

going on at Barry Unit 8.
Q. And part of that is based on the transmission at that site?
A. That's correct.
Q. Now, the company has claimed trade secret confidential on the price, the total price of Barry Unit 8?
A. That's right.
Q. And it's going to operate for 60 years or so; correct?
A. Our design is expected to be 40 years.
Q. I'm sorry. 40 years.
So if it's in-service date by 2023, that means Alabama Power expects Barry Unit 8 to operate until 2063?
A. That's correct.
Q. And Alabama Power customers are going to pay for Barry Unit 8?
A. That's correct. And receive the benefits that it provides.
Q. So they'll be paying for it over the lifetime of those 40 years, until 2063?
A. That's correct.

Q. Barry Unit 8 also requires fuel for the lifetime of this project; correct?
A. Yes.
Q. Will that fuel cost as much as the total cost of the unit over the life of this unit?
A. Well, again, Mr. Looney performed evaluations, and he looked at several scenarios. And the way you look at it is the total cost of the facility, and I know that the net cost in some scenarios actually was a savings. The total fuel was a savings related to the cost of owning and operating a facility in some scenarios.
Q. But as a total cost measure, will the fuel be as expensive as the total cost of the plant over the life of the unit?
A. I think Mr. Looney performed that evaluation. He would be better able to answer that question. But it's not unreasonable to think that operating a fuel could be more, depending on the scenario, than the cost of the actual in-service cost.
Q. Who would pay for an increase in operations

and management at the plant over time?
Would that be rate payers?
A. That's correct.
Q. And fuel prices over time?
A. That's correct.
Q. Rate payers? And environmental cost over time?
A. Customers would pay for that.
Q. You stated that there has been some work completed at the site?
A. No, not completed. Just some preliminary work that has begun at the site, but nothing has been completed.
Q. So that's a road in the site access work road; is that correct?
A. That's what's ongoing today.
Q. And is that continuing today?
A. Well, as far as the site work specifically, we're really just beginning site work. The preliminary design of the roads, received the permits to date. So there really hasn't been much at the site done yet, but that will be beginning now.

Q. Understood. But there's money being spent currently?
A. That's right, to ensure sure we can have the unit online by November of '23.
Q. And you negotiated the EPC contract; is that correct?
A. That's right. Our team was responsible for that.
Q. And you stated that that was part of the draw of the value for this project, this turnkey project; is that correct? The contract itself?
A. That's right. The contact provides significant value, and that the consortium was willing to take certain risks associated with projects of this size. And by them taking those risks, it's valuable for our customers to have them take the risk, rather than the company.
Q. And consortium is who?
A. It would be the combination of Black & Veatch and Mitsubishi Hitachi Power Systems.
Q. So you negotiated various performance provisions of this contract and this allocating of the risks?

A. That's correct.
Q. And in negotiating of this, did this increase the cost of the contract?
A. It's all included in the cost of the contract.
Q. Typically, wouldn't that be something that would be in the negotiations you would have to negotiate about what the cost of the contract is, and you have to give a little to get a little; correct?
A. That's right. For each of the components that we might evaluate, you know, you talk through what each party is willing to do and perform, and that's how you decide who takes what risks, and that impacts the price.
Q. And overall, that would have impacted the total price of the contract as far as for Alabama Power?
A. That's right.
Q. If the contract is cancelled, does that increase the cost?
A. If a contract is cancelled?
Q. Would that increase the cost of the

contract to rate payers?
A. If the contract is cancelled, you would have a set of costs associated with that, but you're not finishing the project. So you only have to deal with that specific set of costs associated with cancellations.
Q. And between the two vendors in this project, who is in charge?
A. Are you talking about between Black & Veatch and Mitsubishi?
Q. Correct.
A. Well, both of those contracts -- both of those entities are responsible 100 percent for that the contract. It's what called the joint and several liability. They both pay liability together and independently for the project. So essentially, they co-lead.
Our main contract was through the major equipment manufacturer, through Mitsubishi.
Q. Have you entered into major contracts such as this with two different vendors?
A. I don't -- I have not. I'm not familiar with whether the company has or not.

Q. Does it add costs to the contract to have two different vendors as a part of it?
A. No. You know, we evaluated all of the costs and all of the benefits, and the best value was really to have the consortium work together. Again, there's a significant benefit by having the two vendors provide joint and several liability. That limits exposure -- further limits exposure to the company of nonperformance.
Q. Who is responsible if something goes wrong in the contract?
A. Is there a particular type of something going wrong that you can --
Q. What happens if there is a conflict? Is there -- is it laid out in the contract?
A. Well, the contract lays out the results if there's a conflict.
Q. Is there potential for finger pointing or conflicts within the two vendors in the consortium?
A. Again, I think the contract very firmly lays out the responsibility of the parties and

the milestones that has to be performed for payment. We have people that will be evaluating and ensuring that all of that happens. And so that structure, I think, limits the risk of the company by having that big a structure.

Q. You had talked about the diversity of the electricity portfolio, I think, in your rebuttal testimony, generally?

A. Yes.

Q. What do you consider a diverse resource mix?

A. I think like Alabama Power is moving today. We will have a very diverse -- this particular portfolio has lots of diversity in it, in my opinion. You have the diversity of a self-built project with a 40-year life. You have the diversity of an acquisition of an asset that has a shorter lifetime, actually lifetime adds adversity. You have some PPAs that provide value for both the gas resources and PPAs for solar battery combination, so that's the kind of diversity.

Along with that, the company also has hydro

facilities, other solar facilities, nuclear facilities, coal facilities. All of that helps provide diversity.

Q. Considering Southern Company's low to no pledge on carbon, will the fossil fuel mix be considered part of that diversity analysis?

A. Yeah, I think any analysis of the fleet would include possible --

Q. So that's a yes?

And you were here yesterday when Mr. Kelley was giving his testimony, being crossed?

A. Yes, I was.

Q. And I think, in 2019, you had 29 percent gas and 32 percent coal mix in the fleet?

A. That's what I recall. I could be wrong. If you have it in front of you and want to show me.

Q. Certainly. In 2024, after these units allegedly will come online, you have 31 percent gas and 29 percent coal?

A. That's right. But you would also have more -- you would have 400 more megawatts of solar and 400 more megawatts of battery, so that

enhances diversity.
Q. So over 60 percent of the portfolio would still be in fossil fuels; is that correct?
A. That's correct.
Q. And does that comport with the goals of Southern Company's low to no carbon pledge?
A. I do think that it will be contributing to lower carbon production, because these particular assets will be dispatching ahead of higher costs, more carbon intensive resources like coal. So they absolutely will help contribute to lowering the carbon.
Q. So what are those resources of coal specifically to the Alabama Power system that these will be dispatched at?
A. Generally, I would think of there are coal units at Barry. There is a coal facility at Plant Gaston.
Q. Would you retire those coal units at Barry?
A. I believe the company needs all of those -- the resources it has to in order to meet current obligations. So I don't see how an addition of this resource is going to cost another to retire

at this point.
Q. So your testimony is no to that?
A. That would be my understanding.
MR. JOHNSTON: That's all the questions that I have.
THE COURT: Thank you, Mr. Johnston. That brings us to Alabama Solar Industry Association. Ms. Howard?

CROSS-EXAMINATION

BY MS. HOWARD:
Q. Good morning, Mr. Bush.
A. Good morning.
Q. I'm Jennifer Howard. I represent the Alabama Solar Industry Association, and we have met in your deposition; correct?
A. Yes.
Q. You acknowledge that over the lifespan of the Barry 8 plant, regulatory requirements can change; correct?
A. They can.
Q. And new regulatory requirements can impose new costs on the system; correct?
A. They could.

Q. And some analysis has been done with respect to a certain range of potential future carbon prices; right?
A. Yes, as well as fuel prices.
Q. But you have no analysis of the potential cost of complying with other potential new and environmental regulatory requirements that could apply in the future to gas burning plants; right?
A. I do not.
Q. And you do not dispute that such analysis could be done; correct?
A. Again, you're talking about some hypothetical that we don't -- I don't know what scenario you're talking about. It's some -- we perform analysis, but we would have to have some started by which we perform the analysis. And I don't know how you would do that without some hypothetical review of what that might be. We don't generally do hypothetical reviews like that.
Q. But you could propose a hypothetical view of the future environmental regulation and form

an analysis of what that impact would be; correct?

A. I assume you can set up a scenario with certain criteria and run the models around.

Q. And you performed no analysis comparing Barry 8 to other resource options available to the company and which ones were the lowest cost options; correct?

A. Mr. Looney performed those cost evaluations.

Q. And you did not. Mr. Looney did; correct?

A. That's right. Now, I did compare combined cycle options at Barry 8. That's what I did.

Q. And I want to make sure I correctly understand your testimony today on stranded assets.

You performed no analysis attempting to quantify the risk of proposed gas burning plants becoming stranded assets; correct?

A. That's correct. I did not.

Q. And you didn't talk to anyone who did; right?

A. That's right. As far as I know, there was

no stranded assets specific risks evaluation performed.

Q. And you have no written analysis to indicate that the gas burning assets are unlikely to become stranded assets; correct?

THE COURT: We've already hit on a lot of these issues, so I would like to not duplicate what's already in the record. So let's be attentive to that going forward.

MS. HOWARD: I understand, Your Honor. I think there's been some confusing testimony about this, and that's why I'm trying to clarify the question.

THE COURT: Trust me. I know if he answers yes or no. We need to do a better job in answering yes or no, but believe it or not, when I hear the answer and I read the testimony, I know whether or not he's answered yes or no.

So, anyway, a yes or no will be good going forward, and we wouldn't have duplicate questions. So that's something all witnesses need to understand is that I know if you're

answering yes or no. You're not fooling anybody. You're not fooling them. So going forward, we can stop some of the duplicative questions by getting it clear on the record.

MS. HOWARD: And this my last question on this.

BY MS. HOWARD:

Q. You have no written analysis to indicate that the gas burning assets are unlikely to become stranded assets; correct?

A. That is not correct.

Q. Do you recall when your deposition was taken last month?

A. Yes.

Q. I'd like to direct you to page 115 of your deposition.

A. I don't have it.

Q. Mr. Bush, I'll ask you, during your deposition, do you recall this question being asked and this answer being given, page 115, line 4:

"So you have no written analysis to offer concerning this opinion that those units are

unlikely to become stranded assets during their remaining lives; correct?

"ANSWER: I don't have written analysis specifically."

Did I read that correctly?

A. That's correct. If I can clarify my answer, though.

The "you" then was me specifically. I was talking about the company. The company analysis performed by Mr. Looney does, in fact, show that Barry 8 has long-term value. Its benefits are greater than its cost throughout his evaluation. I didn't perform it, but the company does have that analysis.

Q. And you're talking about nothing further beyond what was offered by Mr. Looney; correct?

A. That's right.

Q. And you have no guarantee of persistently low gas prices in the future, do you?

A. I have no guarantee.

MS. HOWARD: That's all I have. Thank you.

THE COURT: I'll take it, you want

this marked as an exhibit?

MS. HOWARD: Yes, Your Honor.

THE COURT: It will be Alabama Solar Industry Association 3.

Any objection to its admission?

MR. GROVER: No, Your Honor.

THE COURT: Document is admitted as marked.

MR. MCCARY: Your Honor, one clarification. Was the page from the deposition just offered?

THE COURT: Yes, just the page.

MR. MCCARY: Thank you very much than. No objection.

THE COURT: I believe that brings us the attorney general.

MR. WILSON: No questions, Your Honor.

THE COURT: Chad?

MR. MASON: Just a couple, please, sir.

CROSS-EXAMINATION

BY MR. MASON:

Q. Good morning. Thanks for being here.
A. Yes, sir.
Q. Barry Unit 8 is sometimes referred to as a configuration of a one-on-one?
A. Yes, sir.
Q. Can you describe that for us?
A. Certainly. Glad to. A one-on-one is where you have a single combustion turbine in a single steam turbine on the back end of it. So oftentimes, configurations like Barry Unit 6 and 7, they have two combustion turbines with a heat recovering steam generator, and they go through a single steam turbine. So then the designation of one of the ones is the combustion turbine, and other one would be the steam turbine.
Q. So the back end is the heat recovery steam generator?
A. That's correct. Yes, sir.
Q. Can they operate independently?
A. They cannot.
Q. They cannot. And the Barry Unit 8 is due for an upgrade in a few years?
A. That's right.

Q. Is the cost of that upgrade included in this fixed price turnkey?
A. Yes, sir, absolutely. That's one of the benefits that this consortium provided, was agreeing to implement that upgrade in with the project.
Q. Okay. And you also indicated while you your were negotiating fixed price turnkey project, you also had an opportunity to negotiate a long-term service agreement?
A. Yes, sir.
Q. Did that mean you have an opportunity to negotiate favorable terms for that agreement over the life of the project, or are those costs included in the fixed price turnkey project?
A. Those are the favorable costs that we got for the ongoing -- this is ongoing cost, really, not included --
Q. The periodic type cost?
A. That's correct. Yes.
Q. So they're not in --
A. That's right. But they were included in the evaluation.

Q. Okay. And also, one of the benefits of a fixed price turnkey project, you mentioned before, is to try to mitigate risks for customers?
A. Yes.
Q. Is that correct?
A. That's correct.
Q. Okay. But then, I think, in my reading, I read where there's possibility of change orders?
A. There are.
Q. And those could be company-directed change orders?
A. That's correct.
Q. And it could also be unforeseen geological challenges?
A. That's correct. Yes sir.
Q. Can you expand on that and perhaps shed any light on what the company plans to do to mitigate those costs?
A. Right. Well, we're very focused on keeping costs low. But as we do some of the oversight work with the final design of the facility itself, when those engineers are putting

together, say, maintenance locations, what we see in the past are folks will design a door that you can't open all the way. So our guys want to make sure, hey, operation folks won't be able to get into this panel, and so you need to make a modification to that design. So we left the contract open to make sure we can -- are ongoing maintenance and operations of the facility will be as efficient as possible if we see some things like that. That's where that was intended to be able to incorporate. We hope that that won't be the case. We want to limit that as much as possible.

And then as far as the site conditions, you know, the site has not been worked, you know, no grading, no rubbing has been performed at the site. So it's -- if there was something there on the site that was discovered, whether it was, say, a Native American burial ground, which we've run in in other locations with the site before, those are things you have to take into account that you don't know exist until you actually get there. So.

We don't know of any. We don't expect anybody -- again, we included that in case there is something like that on the site.

Q. But there's some steps you might could take. If you were to be certificated this project and were to move forward, there would be some stops, such as board drilling and things like that, you could do to make sure you're not going to run into the some things, like we did in one of the military projects?

A. That's right. We actually have performed geotechnical analysis on the specific footprint of where the unit is located. So we have performed some of that analysis already, and we see no problems there.

Q. And I don't know if this is confidential, so you tell me if it is.

A. All right.

Q. Or just don't answer it.

But I was wondering if you could tell me what the ambient temperature design is for the winter and summer? Is that something you can share with us or not?

A. We have --
Q. If you can't, it's okay.
A. I can share this. I think the design temperature -- the minimum design temperature is zero degrees, and the maximum design temperature is 105, which doesn't mean you can't operate beyond those. But that's the design temperature for the resources.
Q. And with a little bit more winterization weatherization, it might drop a little bit more than that?
A. Absolutely. All of that is included in the requirements for the facility.
MR. MASON: That's all I have. Thank you.
THE COURT: All right. Redirect?
MR. GROVER: Just a few, Judge.

REDIRECT EXAMINATION

BY MR. GROVER:
Q. Mr. Bush, for clarification, what is the role -- I'm sorry.
What is the role of Black & Veatch in connection with the contemplated Barry Unit 8

project?
A. They are the entity who will be designing and constructing the facility.
Q. Okay. And then with respect to Mitsubishi and Hitachi Power Systems, what is their role?
A. Their role is to provide the major equipment, the combustion turbine and the steam turbine.
Q. For a large just, you know, combined cycle project like this, is it customary to have those two different vendors involved in a project?
A. That's correct. Yes, it is very customary. Because, generally, the vendor does not do the engineering and construction work.
Q. Okay. Then I feel like over the course of questioning from the Southern Environmental Law Center, maybe the question got answered.
Barry Units 6 and 7 are combined cycle units; correct?
A. That's correct.
Q. So, I mean, is it fair to say that the company has experienced on the coast operating combined cycle units?

A. Absolutely. It does have significant experience.

Q. Okay. With respect to the engineering procurement and construction agreement for Barry Unit 8, to your knowledge, does it speak to site coordination among vendors and contractors?

A. It does, absolutely.

Q. How does it speak to it, if you recall?

A. It has a special section beyond general conditions that has a section that talks about site coordination and performance there on the site.

Q. I really don't want to belabor this, but I just feel compelled to ask it.

To your knowledge, are you aware of the code of ethics policy with respect to Southern Company Services employees?

A. Yes.

Q. Do you have a general understanding of what that code of ethics policy requires of its employees?

A. To be truthful and honest in all that we do and to act in an ethical manner.

Q. Thank you. Do you know, Mr. Bush, in your experience of the years, do you know what a centralized service company is?
A. Generally, yes.
Q. Okay. Is your understanding that Southern Company Services is a centralized service company?
A. I don't believe that is.
Q. Okay. What is your understanding of what SCS is?
A. SCS is a company that provides consulting services and other specialized services for the operating companies on their behalf, working on their behalf.
Q. Okay. Do those services that are provided, do they include fuel procurement?
A. They do. That's correct.
Q. How does SCS go about procuring fuel for the operating companies?
A. SCS, as agent for all of the operating company, actually procures fuel as an entity for each of the resources within the footprint of operating companies, and they do it in a way

such that they can optimize those purchases on behalf of the operating companies.

Q. When SCS procures fuel for the operating companies, is that contract limited to the operating company for whom it's procured?

A. No, it is not. They're able to, again, optimize the available resources, whether it's an FT contract or whatever it might be, to ensure that we provide the lowest cost fuel for any customers.

Q. So is it your understanding that some of the existing contracts for which SCS has procured for the operating company may be utilized at Barry Unit 8?

A. That's correct. They'll be using existing contracts. Gulf Power, for example, transitions out of the fleet, they'll be available -- can be utilized and will be utilized for Barry Unit 8.

Q. And several times you mentioned the face that there's flexibility associated with the Barry site --

A. That's right.

Q. Okay. --with respect to fuel. I'm sorry.

With respect to fuel?
A. That's right.
Q. Beyond sort of the flexibility maybe you were alluding to for the FT contracts, are there other sources of flexibility there?
A. There absolutely are.
Q. What are they?
A. Barry -- the Barry site is very unique in that it -- you have three different pipes that come to it a header as well as a storage facility that is there on site. So you have the flexibility of multiple pipe access to the site as well as connected to that a storage facility.
So from reliability, from an optimization and operational performance, Barry Unit 8 is really unique, I think, relative to all sites across the system in its ability to be so flexible.
MR. GROVER: Thank you, Mr. Bush.
That's all, Your Honor.
THE COURT: All right. Mr. Bush, thank you for your testimony.
Mr. Bush's pre-filed direct and

rebuttal will be entered into the record as well as this exhibit.

MR. GROVER: Thank you, Your Honor.

THE COURT: Let's take a break, very short break, and we'll try to get started with the next witness.

(Brief recess.)

THE COURT: All right. Mr. McCrary, are you ready to resume the testimony of Mr. Looney?

MR. McCRARY: Yes, Your Honor. Alabama Power calls Brandon Looney.

BRANDON LOONEY,

the witness, having been sworn or affirmed to speak the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MR. McCRARY:

Q. Would you state your name for the record, please?

A. Yes. My name is Brandon Looney.

Q. By whom are you employed and in what capacity, Mr. Looney?

A. I'm employed by Southern Company Services, and I am the manager for reliability and resource procurement.

Q. Mr. Loony, in connection with this proceeding, did you previously cause to be filed direct testimony?

A. Yes.

Q. Along with one exhibit?

A. Yes.

Q. Did you also cause to be filed rebuttal testimony along with two exhibits?

A. I did.

Q. Do you have editions or questions to make to that testimony or to those exhibits?

A. No, I do not.

Q. Mr. Looney, if I would ask the questions set forth in your testimony here today, would your answers be the same as previously filed?

A. Yes, they would.

MR. McCRARY: Your Honor, we would offer Mr. Looney's testimony for the testimony.

THE COURT: Mr. Looney's pre-filed

testimony will be entered into the record subject to cross-examination as well as the exhibits.

MR. McCRARY: Yes, sir. Thank you.

BY MR. McCRARY:

Q. Mr. Looney, do you have a summary of your testimony?

A. I do.

Q. Go ahead.

A. "Good morning. In procuring resources to meet its projected winter need, Alabama Power identified through market solicitations numerous options, including conventional generation, renewable generation, and energy storage technologies each with various project structures.

"As detailed in my testimony, my team and I undertook extensive economic analysis to evaluate these options and determine the most cost effective portfolio resource editions to meet Alabama Power's obligations to its customers. We performed our analysis using industry standards, modeling tools and

practices, employing reasonable assumptions and restraints affecting the availability in performance of resources and accounting for all known and reasonably ascertained costs and benefits. We also utilized multiple gas pricing and carbon price forecasts in order to arrive at a robust portfolio which gives us confidence in the proposed portfolio's ability to perform in the face of future uncertainty.

"Our analysis was fair and sound giving each resource an opportunity to compete on its own merits while ensuring that the proposed portfolio provides the best value to customers in reliably meeting the company's resource needs."

Q. Thank you, Mr. Looney.

MR. McCRARY: Your Honor, Mr. Looney is tendered for cross-examination.

THE COURT: All right. Mr. Looney, and then continuing with the thing that came up earlier is when you're asked a question, if you will give us the most direct answer you can give us, a yes or a no when possible, the

objective, because I'll let you explain your answer, but when you don't do that and you want to tender something else, you're going to get the same question three or four times. I don't want to read all of that. We know when you've answered and when you haven't.

So let's just kind of cut to the chase and give a answer, and then I'll give you an opportunity to respond, and this applies to all witnesses going forward, because I think we can cut through a lot of -- some of the duplication that we're getting on questions and also duplicate cross. So let's try to be mindful of that as go forward.

THE WITNESS: Yes, sir.

THE COURT: And with that, any questions from Manufacture Alabama?

MR. CLARK: No, sir, Your Honor.

THE COURT: All right. AIEC?

THE WITNESS: Yes, Your Honor. I have a few questions.

CROSS-EXAMINATION

BY MR. HILL:

Q. Mr. Looney, you testified earlier that you gave direct testimony and included one exhibit in that testimony.

Could you -- do you have that in front of you right now?

A. I do have a copy of that.

Q. Would you go to your Exhibit 1, please?

A. All right.

Q. Okay. Now, there was a confidential version of this, and there was a public version of this. I just want you and everyone else to know that I want to talk -- I do not want to talk about anything that's of a confidential nature, okay?

A. Okay.

Q. So I'm going to try to phrase my questions in such a way that they do not elicit a confidential answer, but also be mindful when you're answering that I'm not trying to elicit from you confidential information, all right?

So let's look at this exhibit real quick. There, you're stating the cost and benefits for each of the competing resources on a dollar per

kilowatt net present value basis; is that correct?
A. That is correct.
Q. Okay. So to determine the amounts of the dollar-per-kilowatt basis, you first have to calculate each of the dollar costs and each of the dollar benefits; is that right?
A. That's generally correct.
Q. Okay. Was anything else involved in that step?
A. Not that I can think of.
Q. Okay. And correct me if I'm wrong, but next, you then quantify the net present value of each of the dollar costs, the net present value of each of the benefits, and the net present value of the kilowatt capacity; is that correct?
A. Again, generally, it's correct. Mechanically, the order might be a little different; mathematically, in that we might have calculated net value and then converted the dollar per KW. I actually believe we converted to dollar per KW and then converted to net present values. But the order of operation

doesn't matter to the end result.
Q. But from 10,000 feet, am I going through the analysis, generally speaking, the way that you were going through it when you came up with these numbers?
A. Yes, I believe so.
Q. Okay. All right. So would the next step be that you -- the dollar-per-kilowatt hour amount for each of the costs is derived by dividing the net present value of the dollar cost by the net present value of the kilowatt capacity?
Are you still with me?
A. I'm with you, but we don't take a net present value of kilowatt capacity. That's just a nominal number.
Q. Okay. Anything else that would be --
A. That's a fair characterization.
Q. Am I still generally headed in the right direction for how you got these numbers?
A. You seem to be, yes.
Q. Okay. You made the same analysis for each of the benefits, quantified the net present

value of each of the benefits, and you divided it by the net present value capacity; is that correct?

A. Again, given the same explanation I gave before, I still think you're generally correct.

Q. General speaking. I'm just trying to get to some of these numbers and show how we got there.

Alternatively, instead of expressing the cost of the benefits on the dollar-per-kilowatt net present value basis, you also expressed the cost of benefits on a dollar megawatt hour basis -- I'm sorry -- dollar-per-megawatt net present value basis?

A. I think if we have expressed it in dollar-per-megawatt, instead of dollar-per-kilowatt, it's just a simple order of converting by a thousand.

Q. I meant dollar-per-megawatt hour.

A. That would have been an inappropriate way to rank these resources.

Q. Have you made any comparison on a dollar-per-megawatt hour basis?

A. For the order of ranking these resources, no.
Q. Okay. Why not?
A. We were procuring capacity here, and capacity is measured in kilowatts.
Q. Okay.
A. Energy is a benefit that many of the resources bring, but it's not the requisite resource, and so it would be inappropriate to purchase capacity in terms of an energy measurement, and that's sort of the reason in my answer.
Q. All right. Do each of the resources that you list in your exhibit produce the same amount of the energy per kilowatt of capacity?
A. No, they do not.
Q. And I'm going to come back to that, okay?
Is the relationship between energy produced in a capacity known as the capacity factor?
A. Yes, that's true.
Q. For example, do you assume that the five selected solar per storage plant typically operates at an annual capacity factor below

30 percent?
A. We didn't make that assumption, but I think that's probably a correct characterization.
Q. What are the estimated annual capacity factors of each of the five selected solar plus storage plants?
A. I don't know those numbers exactly. What we were provided by the project bidders is the energy profile that each resource is expected to provide, and that was the basis for calculating the energy values. So there is embedded in that the capacity factor, but it wasn't a direct component of our analysis.
Q. If by using some of your numbers, people smarter than me came up with a percentage of about 26 percent, would that seem far off from what you understood your annual capacity factors to be for the solar?
A. It strikes me as a tad high for a PV facility, but not way out of line.
Q. What about solar plus battery storage?
A. Again, battery doesn't generate electricity. It stores electricity. So it

shouldn't have an impact on the capacity factor of the resource.

Q. So you would say the capacity factor for the solar plus storage would be probably less than 26 percent.

That's what you were telling me earlier?

A. My general understanding of the technology is that the capacity factor is to be solar resources to the low to mid 20 percent. It does depend on the resource is a fixed resource or a tracker.

And again, a battery -- if you want to take into account for all of the energy used, a battery is a net consumer of energy. So you can think that the overall capacity factor of that resource would be incrementally lower, but again, that depends on the operation of the battery.

Q. Did I understand you to say that the solar plus battery capacity factor would be the low 20 to 25 percent?

A. You understand me to say that the solar facility would be in the low to mid 20 percent

generally for a solar PV facility, okay?
Q. What's the estimated annual capacity factor of Barry 8?
A. In our analysis, it varies on multiple degrees. It varies for each year of our analysis, and it also varies for each scenario that we analyze. That's just the nature of the dispatchable resource. Generally speaking, the Barry Unit 8 capacity factors were high across our analysis.
You want me to define how? I would say in the ballpark of 80 percent, give or take, year to year.
Q. Am I understanding you to say then that Barry 8 would be 80 percent, and solar would be 20 percent?
A. Or a capacity factor, as you sort of defined it earlier, yes, sir.
Q. So Barry 8 produces roughly four times the amount of energy per kilowatt of capacity as the solar plus storage plant?
A. In our simulations, I think that's a fair characterization. Again, it's a dispatchable

unit, so it can produce anywhere from zero to nearly 100 percent post nameplate in economic and actual dispatch; whereas, solar is more of a fixed capacity factor. So it's a bit of an odd comparison, but I think we're okay with what you said.

Q. So would you agree that all other things being equal that the net benefit on a dollar-per-kilowatt basis were exactly the same between Barry 8 and a solar plus storage plant, that the net benefits of Barry 8 and solar plus storage plant were expressed on a dollar-per-megawatt power net present value basis, would Barry 8 be less than 40 percent of the cost of the solar plus storage project?

A. I'm not comfortable trying to do that math in my head right now.

Q. So let's go back to the 80/20.

Would you say there's a significant difference between solar and the Barry 8 annual capacity factor?

A. The 80 percent and 20 percent at face value seem to be significantly different numbers, yes.

Q. I just have a couple of questions about natural gas prices in your testimony.

When did you study and make your assumptions about natural gas prices?

A. I think it was testified yesterday that we used our budget 2019 gas forecaster analysis, and those gas forecasters are developed throughout the calender year 2018 and are generally finalized, I believe, around the midpoint of that year.

Q. So did you do a sensitivity analysis that reflects the current gas prices that we have now?

A. We did not do a sensitivity that reflects current market price. We used our long-term gas forecasts in our planning and evaluation processes.

Q. Can you describe for me how you came up with the high and low numbers when it came to your analysis of natural gas prices?

A. I can describe the gas prices that we used in the analysis.

Is that the question?

Q. Sure.
A. Yeah. We used a gas price that I would describe as moderately low to reflect how the portfolios would operate on an ongoing gas prices that are, you know, not extremely low, but lower than --
Q. How did you determine moderately low?
I mean, what was the benchmark for coming up with a moderately low number?
A. Again, we have an annual process where we develop gas price forecast. It's not my particular responsibility, but I'm familiar with the process. And I think it was mentioned yesterday we used a firm called Charles River and Associates, and they run some economic models to help develop based on different supply and demand assumptions where gas forecasts might be going forward, and they alter those supply and demand assumptions to give a variation in gas price forecasts, and then we adopt the nomenclature of low, moderate, and high. And as you might suggest, we might understand that the low is lower than moderate and moderate is lower

than high, the high is the highest one.
Q. Does Charles River and Associates decide what's low, moderate, and high, or does Alabama Power decide that?
A. Charles River and Associates, under our contractual relationship with them, produces the gas forecasts. I don't think they care what we call it.
Q. Okay. And it's very possible that while we're talking past each other, and it's probably my fault, but you have three categories -- okay? -- low, moderate, and high.
Are you using the same concept as Charles River and Associates where they have three different categories, or are you taking numbers from them and putting them in the three different batches or --
A. I am using their gas forecasts directly.
Q. Okay. And then using that to put three different sets of numbers from that forecast; is that correct?
A. No. They produced three entirely independent gas forecasts.

Q. Okay.
A. And I used each one of those entire independent forecasts to do what's essentially an independent resource analysis, and I replicate that analysis using a totally different independent gas forecast. So there's no mixing and matching of numbers.
Q. Okay. That makes a lot more sense. Okay. Well, I appreciate your time. Thank you.
A. Thank you.
THE COURT: Any questions from Energy Fairness.org?
MR. GRIFFIN: No, Your Honor.
THE COURT: American Senior Alliance?
MR. HOOPER: No questions.
THE COURT: Alabama Coal Association?
MR. CAGLE: No, sir.
THE COURT: All right. Brings us to Sierra Club.
MS. CSANK: Thank you, Your Honor.
THE COURT: And we may have to

abbreviate. I have a time constraint with shift change with security, but let's go ahead and get done what we can get done.

MS. CSANK: Thank you, Your Honor.

THE COURT: I don't mean I'm putting a time limit on you, to be clear.

CROSS-EXAMINATION

BY MS. CSANK:

Q. Good afternoon, sir.

A. Good afternoon, Ms. Csank.

Q. Mr. Looney, you've worked at Southern company for nearly 20 years, almost your entire career?

A. Yes. My entire professional career has been with Southern Company.

Q. And are you a shareholder, Southern shareholder?

A. I am a Southern company shareholder.

Q. And approximately how many shares do you hold or have access to?

A. I don't really know. I have a limited holding in my retirement plan of stock, and I also some grants of options that I got through

the company several years ago. It wouldn't impress anybody.

Q. As manager of reliability and resource procurement, do you structure requests for proposals?

A. That's part of the support that we give to retail operating companies is some insight into structuring RFPs, specifically such that we assure that the input that we get from the market provides the information that we need to appropriately evaluate the options.

Q. Okay. And so of the -- and you've been here throughout the proceedings, so we can refer to the testimony by other company witnesses, and generally you're familiar with that?

A. I think that's safe.

Q. And so we discussed at this proceeding various requests for proposals underpinning the company's petition.

Did you specifically participate in the development of the terms of those RFPs?

A. I didn't have a lot of direct participation in development of the RFPs.

Q. What participation did you have?
A. At most, maybe just some conversations. Now, members of my staff were active reviewers of the documents, that sort of thing.
Q. Okay. And are you thinking about any particular RFP or all of them? Which one?
A. Really, our focus was the capacity RFP as it pertains to the structure of the RFP.
Q. And in your role, you advised retail operating companies, similar to Mr. Bush?
A. We advise. We collaborate with them, yes.
Q. Okay. And you undertake analysis at the direction of the retail operating companies?
A. Yeah. Generally, the majority of the work that we do is at the direction of the retail operating companies.
Q. Do you advise them of additional analysis that may be prudent or applicable to whatever issues they've identified for you?
A. I think one of the benefits to our shared service model is that it affords us a level of collaboration that's hard to replicate with an independent consultant, and some of that, at

times, might be the things that we make the operating company aware of. It doesn't dictate their actions, but it's certainly information that if we think it's valuable to them, we'll put forward.

Q. And were you asked to perform any analysis of -- well, strike that.

Essentially, you are providing analysis on the resource options on the supply side available to the company for the purposes of its claims needs in this case; correct?

A. That's correct.

Q. Okay. And so you are not providing analysis or opinions concerning demand sight options; is that right?

A. That is correct. We did not provide analysis to support demand side resource options.

Q. Nor did you seek to reconcile whether additional demand side resources would lead to a lower cost solution for customers, did you?

A. That's correct. That was outside of the scope of our participation in this analysis.

Q. And you're not providing opinions about the company's claims needs in this case; correct?
A. I didn't testify to any particular opinion on that.
Q. Okay. So in terms of those two showings we talked about yesterday that the company must make in this case, you're specifically offering opinions and analysis that relate to cost effectiveness?
A. I think that's a fair characterization of the evidence that I have to present to the commission, yes, ma'am.
Q. Okay. And as part of the testimony and exhibits that you're offering, did you review whether there may be existing resources on the Southern System that are available to the company to meet on a temporary basis at least its claims needs?
A. We didn't specifically look at that. It's not a task that is as simple as what some of the questions you make it sound like.
Each operating company has the full claim to their resources, and it would be

inappropriate for me to go expect them to hand over some portion of that resource for me to then hand it to another operating company. And so it's just not part of the way our affiliates interact.

Q. Okay. But that's a pretty broad statement, and I think that throughout this hearing, we've been discussing how there's an important timing element to the claim needs during certain hours during the winter, which may not line up with the load shapes for the other sister company; is that right?

A. I'm not sure I recall that specific dialogue yesterday or today regarding load shapes and timing. I mean, there's diversification in our reserve margin study that Mr. Weathers spoke to, takes into account diversification, and certainly, our realtime operations takes into account diversification.

I'm not sure that that speaks to the allotment of resources that one company has had certified by their commission, then being allowed to just be taken by another company and

duplicatively certified by that commission.
It's a bizarre line of thought for me.
Q. Okay. So the short of it is that as part of your scope of work for the purposes of this case, you were not asked to look at the availability or the cost effectiveness of such resources, existing resources, on the Southern regulated system?
A. No, ma'am, I was not.
Q. Thank you. And just to be clear, we are talking about cost effectiveness.
And do you have a directive either from Mr. Kelley and his colleagues at the company or elsewhere in Southern to quantify or otherwise incorporate environmental justice impacts of your resource selection?
A. I don't believe we have a direct request to include, as you described it, environmental justice components. Through our collaboration with Alabama Power, we felt it was prudent to consider carbon constraints of some form, and so I testified we adopted a carbon price to reflect that pressure on our fleet.

Q. Okay. I certainly don't want to belabor this point, so bear with me. I'm going to try to make this quick.

What's your understanding of the environmental justice?

A. I think, through our previous discussions, we did speak to the social cost of carbon. So in context of this line of questionings, that's what's coming to mind.

Q. Anything else?

A. Nothing else particular.

Q. And you're familiar with the pre-filed testimony of Sierra Club witnesses in this case, are you not, sir?

A. I'm familiar with them, yes, ma'am.

Q. And I know we haven't gotten into the witnesses yet.

But besides the expert witnesses, Ms. Wilson and Mr. Detsky, Sierra Club also pre-filed the testimonies of several individuals who are for the purposes of standing.

Did you happen to review those witnesses' pre-filed testimony?

A. I want to say that I saw those and did take some time to read them. I don't claim to have spent as much time with those as some of the others.

Q. Understood, sir. But again, I'll keep this brief.

In particular, there was an individual who is from the Africatown community, Mr. Womack. Do you happen to recall this testimony?

A. Not in particularity.

Q. All right. Let me represent to you then, Mr. Womack aside, that environmental justice encompasses not just climate impacts, but a variety of environmental impacts that tend to disproportionately burden communities of color and low income communities.

Does that resonate with you? Can we agree to that definition of environmental justice?

A. It sounds like a functional definition.

Q. And more specifically, environmental justice is this principle or this concept of in evaluation, in resource decision or decisions at large, to try to on going forward bases

eliminate or void those disproportionate burdens on those communities.

Can we have that understanding, sir, for the purposes of this brief line?

A. I think I can follow that.

Q. Okay. And so at Southern, you don't have any sort of protocol or guidance on incorporating environmental justice into your resource decisions, do you?

A. I don't think we have any particulars. Again, what we rest on is that low cost energy provides benefits to people in general, and maybe specifically low cost energy uplifts the economically challenged disproportionately to those that are more fluent and could afford higher costs of electricity.

Q. Okay. And in terms of -- again, these environmental impacts.

As we sit here today, are you familiar with environmental impacts beyond greenhouse gas emissions from supply side resources, such as the proposed gas burning units in the petition?

A. Our analysis includes impacts of criteria

pollutants if they're quantifiable. I don't think there was any real quantifiable impacts for those based on the regulatory allowances and stuff that are afforded these resources.

Q. You just said a lot. Okay.

Criteria pollutants. For the record, those are air pollutants?

A. That is correct.

Q. Under the National Clean Air Act?

A. I believe that's correct.

Q. And those are the -- those are pollutants that have been identified by the Federal Environmental Agency that the Environmental Protection Agency is having certain human health and environmental significance?

A. Yes. And they're regulated.

Q. And you testified that the impact of that kind of air pollution from those kind of pollutants may be quantified?

A. Well, to the extent that they cost us to operate our facilities. And this isn't my particular expertise, but there's been trading programs over time, there's allowance

allocations and reconciliation. All of those things are built into our production cost, and so they would be accounted for in that manner.

Q. But you don't know or any event think that if there were any criteria air pollutant impacts that were quantified that those would be relatively small for the purpose of the --

A. For the purpose of production costing, they're relatively small.

Q. Okay. And do you know the permitting for -- strike that.

Besides criteria pollutants, sir, are you aware of any other forms of environmental impacts from the gas burning units in the petition?

A. I'm not aware of particularly. They certainly didn't impact our analysis.

Q. Okay. So to expedite this, would you agree that gas burning units have environmental impacts on land, water, and air?

A. I don't know about water and air in particular. I think we've discussed air to some degree. The other seem to be much more site

specific in nature and maybe a little harder for me to represent in general terms.

Q. Okay. And so at a minimum, we know that those were in a limited fashion in your so-called production cost analysis?

A. I would say they were dealt with in the appropriate fashion, and I would also say that we rest in the knowledge that each of these facilities is operating in accordance with, you know, all the legally enforceable permits or expected to do so for the full term of our analysis.

Q. Okay. But you don't have any documents about their continued ability to comply with environment regulations on the books today or potential incremental changes to those regulations?

A. I mean, two of these facilities have a long track record of operating in that manner, and so we do take some confidence in the track record. And I think our contracts, particularly with the Hog Bayou facility, ensures that the owner/operator of that facility will maintain

the appropriate permits and operate in accordance.

There's a lot of due diligence done for the Central Alabama facility to ensure that the company could hold that same level of compliance in that facility.

Q. Sir, may I just stop you. The call of my question was to documents.

Do you have documents?

A. I think the contracts themselves are really good documents for that, and those were filed --

Q. Yes, sir.

A. -- within this proceeding. So I would check there.

Q. Okay. Anything else?

A. Those are the documents that come to mind.

Q. Okay. And in terms of -- just bear with me for another moment.

In terms of gas -- right? -- those three gas burning units, we talked a lot about how they will be burning gas for decades.

Are you aware of any analysis of the pollution upstream of the stacks? So in other

words, the pollution associated with distracting that fuel and transporting it to the sites of these gas units?

A. I believe there's literature on that with probably some level of contention. It's not an area that I study. I think my analysis rests in that policymakers will probably account for all of those types of emissions when they set a carbon policy, and so it affords me the ability to sort of handle it all in one package and trust that the policymakers will make the right choice, and so that's what my testimony represents.

THE COURT: We're going to need to take a recess for lunch at this point in time.

You can resume when we come back.

(Lunch recess.)

THE COURT: All right. Let's go back on the record and resume the cross-examination of Mr. Looney.

And, Mr. Looney, you are under oath, and so we will resume with Ms. Csank's cross-examination on behalf of Sierra Club.

MS. CSANK: Thank you, Your Honor.
BY MS. CSANK:
Q. Mr. Looney, thanks again for being here.
And just for review from before, as part of your scope of work for the purposes of this case, you did not communicate with Alabama Power customers?
A. I did not communicate with any Alabama Power customer.
Q. Nor did you take into consideration their evaluation of various resources that were under consideration, did you?
A. I'm sorry. Could you repeat that? I was trying to fix the mic.
Q. Absolutely, sir.
Do you have everything you need in terms of water?
A. Yes.
MS. CSANK: Madam Reporter, could you read it back?
(Whereupon, the court reporter read the requested portion of the record.)

THE WITNESS: No. We did not take any individual customers' specific evaluation of resources into consideration.

BY MS. CSANK:

Q. And to put a finer point on it, not only did you not directly communicate with customers and get information from them as input for analysis, but it wasn't indirectly provided to you; correct?

A. That's correct. It was not.

Q. Otherwise provided?

A. Right.

Q. But you are aware that there's this -- I'll call it a trend. You can tell me if you disagree -- of corporations, including very large corporations like Delta Airlines, Microsoft, Amazon, to name a few, that have made climate and clean energy commitments?

A. I'm aware of some of those things, and I'm also aware that the company has established and the commission has approved the RTC programs specifically for those companies to pursue their goal. And so it was unnecessary to embed that

into this general capacity solicitation.
Q. Okay. And so the answer was yes? No? I think it was no.
A. No. We didn't receive any specific information with regard to our evaluation in this proceeding.
Q. Okay. You know that there's a number of large customers that are intervenors in this case; correct?
A. Yes. I heard the role call of all the intervenors. There seem to be several that represent large customers.
Q. Are you aware of any outreach conducted by the company to ensure that all potentially interested existing or perspective large businesses who would be customers, large customers, were informed of this proceeding?
A. I would not expect to have been made aware of communications between Alabama Power and their various customer groups.
Q. So it was not within your purview?
A. It's not part of my normal --
Q. Job responsibilities?

A. -- job responsibilities. To the extent that I was asked to participate, I would have, but it's not something that, you know, just I would automatically be exposed to.

Q. And so, again, I'm particularly interested in the analysis you're presenting to this commission.

So it doesn't at all reflect analysis of prospective large customers who might want to move to Alabama, for example, and their resource valuation or commitment?

A. I think that's not a fair characterization. Again, I think most large customers have a myriad of goals, and while some of those goals might be for clean energy that can be met through the RBG program, those goals also have a measure of economic sensitivity. And so to the extent that our analysis might have showed a low cost portfolio, I think that would be interesting and attractive to the customers of all sizes and sorts.

Q. But there was no attempt to directly communicate and verify whether your analysis

was, in fact, satisfactory to those prospective customers, including large businesses?

A. If I understand your question, I think that this very proceeding accomplishes that goal through the allowance of intervenors, a number of which have taken their right and opportunity to participate. And so I think we've -- we have a regulatory structure that allows that kind of interaction with customers.

Q. Okay.

THE COURT: I need an answer, Mr. Looney, more direct, please, and then you can explain, okay?

When you're asked a question, give a more direct answer to the question as much as possible, and then I'll let you explain it.

MS. CSANK: Thank you, Your Honor.

THE WITNESS: I don't know if there was a direct question to answer.

MS. CSANK: Madam Reporter, if you would read back that question.

(Whereupon, the court reporter read the requested portion of the

record.)
BY MS. CSANK:
Q. Yes? No? Don't know?
A. Yes. I think that's what we're here doing in part today.
Q. And to the extent that your answer is a yes, the basis is limited to the fact that there is this proceeding?
A. I think that's the most obvious element to that. The company may have also reached out to customers directly, as I've testified to. I'm just not necessarily privy to those actions.
Q. So you didn't specifically provide analysis to those outward facing employees of Southern, nor did you receive information or feedback from those types of employees?
A. My interaction with the company was through Mr. Kelley's organization. Nothing beyond that.
Q. Right. And in terms of the specific qualifying question, did those communications encompass any outreach to or feedback from prospective customers, including large businesses?

A. I seem to recall some conversations with -- with the group that Mr. Hill represents at some point there. I don't know about others.
Q. Okay. Thank you. And earlier, we were talking about some environmental impacts specifically associated with the gas units that are in the petition that are part of your analysis.
Do you recall that?
A. Yes.
Q. Okay. And I think a good starting point may be just to ask, do you, sir, live close to any of those plants?
A. I do not live close to any of the plants included in the portfolio.
Q. Would you move your family next to any of those plants?
A. Considering where I'm employed, it would make no practical sense for me to move to those locations, so probably not.
Q. But specifically in light of the pollution from those plants, would you move your family next to one of those plants?

A. I haven't given that much thought.
Q. And in terms of this line on environmental justice, I think just to review, we identified that there are land, air, and water environmental adverse effects from the gas units in the petition.
Yes? No? Don't know?
A. I think we identified there potentially could be those impacts. I'm not sure that I was presented with a specific land environmental impact from a gas plant to speak to.
Q. And just to be able to leave this line, in no way did those types of environmental impacts get analyzed in terms of their magnitude or assigned the dollar value to them to go into your economic analysis?
A. I think that's incorrect.
Q. Besides the carbon price that we've discussed already.
A. Well, the cost to -- I mean, to comply with, you know, the legal requirements, it's embedded in the cost of resources, which is absolutely included in our analysis. We

couldn't ascertain and apply additional costs, because they didn't seem to be present. Direct cost to our customers. Maybe I should clarify.

Q. Okay. So the short of it is, your analysis is limited to your expectations under those agreements of what environmental compliance cost would be?

A. Yes.

Q. But not additional environmental compliance, like life cycle, emissions analysis, for any of those units?

A. We did life cycle production cost modeling, which I mentioned earlier, includes an element of the emissions. So again, I don't think I agree with the characterization of your question.

Q. And which emissions are those? Greenhouse gas emissions or criteria air pollutant emissions?

A. Air emissions in general.

Q. Can you identify them?

A. C02, obviously. I believe we attempted to the model the cost for SO2 omissions. I don't

thing there's anything beyond that that's monetized through our production cost. The rest is sort of making sure that you're in compliance.

Q. So CO2 and SO2 were the ones you attempted to quantify?

A. I think there's an element of NOx as well.

Q. Were there any documents in your analysis of those air pollutants besides the CO2 and SO2 and NOx?

A. Any production cost impacts associated with those would be included in the file provided in discovery, as they were part of our production model simulations.

Q. Do you recall the Tampa Specific Solar Analysis that is Sierra Club Exhibit 1 that was discussed yesterday?

A. I saw it getting handed out. I don't think there was actually many specific questions to it, but I was familiar with it being provided.

Q. Did you have a chance to review that document?

A. I didn't get a chance to review that

document here, and I actually haven't seen it face-to-face.

Q. Okay. And have you -- are you aware that analyses like that Tampa analysis exists where facilities seek to identify and evaluate how much supply side renewables can economically be added to their system?

A. If that analysis is indeed what is often referred to as a penetration study, which I'm not sure that it is, I think it might have been more of a sort of research look on dispatchable solar. But if we're talking about penetration-type studies, I'm aware of those types of analyses being conducted.

Q. Are you presenting a solar penetration analysis for Alabama Power Company in this case?

A. No, I am not.

Q. Did that factor into your economic evaluations for this case?

A. No, it did not.

Q. Okay. What are the industry standards modeling tool, sir?

A. There's a number. I'm familiar with a few

of those tools. Particularly, we use the STRATIS Production Cost Model. We use the AURORA Production Cost Model as well. We use SEER-SEM as was mentioned yesterday by Mr. Weathers and Mr. Carden. I know there are some others that provide similar functionality, but I can't provide an all-inclusive list.

Q. Do you know if any retail operating companies are phasing out their use of production cost models?

A. I know that we are in the late stages of evaluating using the AURORA model in place of the STRATIS, and it seems to be a promising opportunity. I don't know if any operating company has made a final commitment to that transition.

Q. Promising how?

A. Well, any transition, there's some pros and cons. We feel that the AURORA model has some advantages in modeling some resources, particularly renewables. We're hopeful that they may model energy storage in a way that STRATIS struggles with. Their run times over

AURORA appear to be significantly longer, so that's an issue we need to manage in our work flow. That's, I guess, my 90-second spiel of that.

Q. Thank you, sir. Appreciate it.

And can we step back for a moment and just identify the type of resource economic evaluations that you're performing that result in output; right? That's a pretty basic question.

A. Yes.

Q. Okay. And the quality or the accuracy of those outputs depends on, number one, the input; correct?

A. Yes.

Q. And then in addition to the precision and accurateness of those inputs, the methodology evaluation also influences the outcome; correct?

A. Yes.

Q. And so if there are flaws in the inputs, they can lead to less accurate, less reliable outputs; correct?

A. That seems to be a logical line of thought.

Q. And if there are likewise flaws in the methodology of evaluation, those may get less accurate, less reliable results; correct?
A. I would tend to agree with that.
Q. And so in pursuit of the least cost of resources for your customers, what kind of analysis do you have documented to verify the accuracy and correctness of your inputs?
A. The documents were largely provided in discovery, where I think you could follow the paper trail from inputs as they were provided by bidders or by the self-build team, and then they naturally flowed into the outputs, be that our Excel kind of tools or the STRATIS inputs, and then the STRATIS outputs flowed into the Excel tools, and then they, you know, were computed to the output, as you said.

So I think there's a clear data trail in our discovery files that we were responsive to in this proceeding.

THE COURT: Ms. Csank, will you slide that microphone a little bit closer to you, please, ma'am?

MS. CSANK: Thank you, sir.

THE COURT: Thank you.

BY MS. CSANK:

Q. And, Mr. Looney, in terms of that paper trail that you just identified in discovery, that paper trail isn't part of your pre-filed exhibits, is it?

A. The entire paper trail is not. The exhibits, I think, summarize the results and conclusions of that process.

Q. And have you provided that paper trail to commission staff?

A. My understanding is that commission staff has access to all the discovery documents. So I believe that it's, in essence, been provided, yes.

Q. Okay. And in terms of the inputs, those are coming from the company; correct?

A. Well, the inputs came from a variety of places. Most of them were established through the RFP, so they came from the marketplace participants through bid forms that were presented to the company and made accessible to

our team. I believe there were some oversight in the bid process as well, and then we did receive the inputs for the Barry 8 opportunity from Mr. Bush's team to be incorporated in our analysis as well.

Q. Okay. And did you verify the input that you've identified for us so far, the reasonableness and accuracy? Did you do some kind of independent check on those?

A. Yeah. Our team, as they would take inputs and begin the analysis with them, certainly would review those for what appears to be reasonableness, and accuracy, I would say more consistency is probably what we looked for, you know, to try to determine if an input is accurate. It is what it is. If it's consistent, I think that satisfies a sound review.

Q. So what kind of criteria did you use to verify the accuracy and consistency of these inputs you were being given from the company or from Mr. Bush?

A. Sure. I mean, these type of inputs, just

to make sure we understand what type of things we're talking about, performance metrics.

Q. When are they used?

A. Like a units heat rate, variable OEM costs, all these thing should be expected to fit into some range of numbers that are dictated by thermodynamics and sort of normal industry costing. And if you saw something that was way out of line, it should raise a question, and I think we would pursue that.

Q. May I pause you there, sir?

A. You may.

Q. What's your reference case for -- you know, what's the reasonable range for these values, heat rate, et cetera? Is there like specific documents or Southern Company kind of guidance on that?

A. We operate a fleet of close to 40 gigawatts of resources, and they all have heat rates, and they have all have variable OEM rates, so we have access to a very large volume of these types of data points.

There's no reason to expect that the

resources that are bid into RFP would exist in a separate universe of the data set. So we use those sanity checks to assure that what we're getting is reasonable and consistent with, you know, the industry norms based on our experience.

Q. And are you presenting that for the commission in this case in document form?

A. Again, all of those inputs are available through discovery.

Q. And in terms of your choice of the evaluation methodologies -- actually, before we leave inputs, anything else besides those inputs from the RFPs we've been talking about? The renewable RFP and the capacity RFP and the turnkey fixed price RFP?

A. I think that covers the resources that we considered, those three sources.

Q. And did you do any verification of whether the size and quality of the bid received, how they compare to other contemporaneous procurements in the market in the region or in the nation?

A. We didn't do any direct comparisons to other RFPs.
Q. So the answer is no?
A. No.
Q. Okay. And in terms of the -- your choice of -- it sounded like it was a pretty complicated process, so bear with me.
You said you started with STRATIS?
A. STRATIS was used in our evaluation to determine the production cost impacts of the resources we were evaluating.
Q. And with Mr. Kelley, we referred to the benchmark case.
Did you review or verify the results of the benchmark case?
A. Yes, we did review that.
Q. Did you verify its reasonableness and consistency with other similar analyses performed by Southern or another utility?
A. Yes.
Q. And where is that documented?
A. I don't know that it's documented. The benchmark case largely looks like our fleet. So

if you look at it and go, look, that looks like our fleet with a few expansion units in it, it's not a difficult task to review the reasonableness of the benchmark case.

Q. Okay. And you're familiar with Mr. Kelley's Exhibit 1, are you not? The 2019 Alabama Power Company Integrated Resource Plan?

A. I'm familiar with it, yes, ma'am.

Q. Okay. And you know that it -- and I can paraphrase here. It describes the benchmark case as an analysis of potential resources to meet the company's identified projected needs.

A. Right. On top of the systematic it is today.

Q. Right. And you're aware that there are certain incremental generic resources that we've been talking about that are in that benchmark case?

A. Right. We commonly refer to that as the expansion plan.

Q. As opposed to the proposed expansion in this case? The terminology that we're --

A. Correct.

Q. Okay. Can we just keep referring to it as the benchmark case?
A. If that's your preference, I'll go with it.
Q. That's what the document seems to use.
And so do you agree that that was a reasonable benchmark case to use for the purposes of this proceeding?
A. I do agree with that.
Q. Because it, on top of existing resources, provides timely and appropriate resource additions for the company to satisfy its claimed reliability needs; is that right?
A. Yes.
Q. Okay. And you're aware that that benchmark plan does not bring 2,400 megawatts of capacity online by the year 2024; correct?
A. That's probably true.
Q. And you also know that that benchmark plan was used as the yardstick for screening for the early screening of a lot of these bids that were coming in through the procurements; correct?
A. That's not clear to me if that's true or not.

Q. Why not? Because you didn't verify that part of the analysis?
A. I would need more specifics about the process that you described as a yardstick screening. We didn't -- we didn't -- in my participation, we received what I think was 55 bids through the capacity RFP. We didn't yardstick screen any of them out. We evaluated each one of them through the detailed process that I described to create an initial ranking list.

So your question seems to suggest there was some less analytical screening that we've done, and that was not my experience.

Q. And that's helpful. Thank you, sir. Because I think what you just described where the capacity RFP results, there are a lot of different procurements in this case.

So you verified and evaluated those; right? But you didn't perform a similar verification or analysis for the bids to the 2018 renewable RFP, did you?
A. We did not directly do that screening. I'm

familiar with how that operates at Alabama Power Company.

Q. But you're not in a position to offer opinions about the accuracy and consistency of those bids, are you?

A. I feel very comfortable offering opinions about the ones that made their way into this portfolio. The ones at Alabama Power dealt with specifically for RTC. I don't think I would be the right person to speak to those.

Q. So you were given inputs, you accepted them on their face, and you plugged them into your analysis, and you can speak to us today about the accuracy of that analysis.

Is that what we should understand?

A. I don't agree that we accepted them at their face. Again, we look at things for consistency. I have a lot of exposure to market prices for renewables.

So, you know, I can easily look at these bids and say they're inline with the bids that we see in other solicitations if the performance of these units meet the expectation of protocol

A performance. And so I just again think the characterization of accepting them at face value is a misapplied term. We do do a fair amount of diligence with the data that we handle in our analysis.

Q. And the renewable specific due diligence that you did in a document that you're presenting to the commission?

A. The document -- the detailed analysis for the solar projects, which was authored in John Kelley's organization and reviewed by my team and I, was provided in whole as part of the discovery of this case.

Q. And in that analysis that you provided in discovery, did you seek to specifically verify this application of the benchmark case to the evaluation of the incoming renewable RFP bids?

A. If I understand the question, let me say, yes, first of all. The evaluation that was done by Alabama Power is consistent with the evaluation that's been done for what I believe to be every megawatt of renewable that's been procured at the Southern Company retail level,

including Mississippi Power, Gulf Power, Georgia Power, and so that's a lot of precedent that we rely on for the foundation of the analysis that was done. So I do think that there was, you know, reasonable oversight of that.

MS. CSANK: Your Honor, I'm clearly struggling. I think I can expedite and truncate this line if I clear the room and make reference to some confidential information.

THE COURT: Okay.

All right. Let's clear the room. Only those who have executed the proprietary agreements may stay in the room while this line of cross goes forward.

And, Madam Court Reporter, this portion of the transcript will be under seal. I will give a moment for the room to clear out. Then we'll turn the microphones off.

All right. Does this look to be individuals who are covered and permissible to be here?

MR. GROVER: Judge, I apologize.

There are two folks who I don't recognize, and it's probably my own fault for not knowing. But the sir next to Mr. Clark. I'm not sure who they are.

MR. CLARK: I'm here.

MR. GROVER: I knew you were here. The fellow next to you.

AUDIENCE MEMBER: That's Shane.

That's fine. He's with me.

MR. GROVER: And then same question. Lady next to Mr. Hooper. I apologize.

MS. PAM: Pam. Commission staff.

MR. GROVER: Thank you so much.

THE COURT: All right. Are we good? I'm about to turn the microphones off. All right.

Proceed with your cross.

(Whereupon, the following testimony is confidential and is under seal.)

BY MS. CSANK:

Q. Okay. I think we established earlier that you're familiar with the Exhibit JBK1, which

you're about to be handed a copy of. I hope the confidential version.

But in the meantime, just to get a jump on it, you're aware, sir, that in the benchmark case, there are 300 megawatts of combustion turbine coming in before 2024?

A. I would need to see the document to speak to specifics.

Q. We'll get it to you in a moment.

And so once you get your document, and for your counsel's benefit, this references pages 11 and 12 of Mr. Kelley's testimony, his direct testimony, but those are essentially excerpts from the IRP Figure. 3D2 and Figure 3F1 are the relevant tables.

MR. McCRARY: What were those again? I'm sorry.

MS. CSANK: So the first one is Figure 3D2 on page 27 of Alabama Power projected capacity needs.

MR. McCRARY: Okay.

BY MS. CSANK:

Q. So those are the identified needs in this

case, and if you turn to figure 3F1, and there's a table there called 2019 winter benchmark case.

Are you there, sir?

A. Yes.

Q. And would you help us with the page number?

A. It looks like page 32.

Q. Thank you, sir. Okay.

And so do you see there on the left-hand side, there's a column with the year running from 2020 down or up, and then the next column is APC CT, and there are 300 coming in in '23 and 600 coming in in '27.

Do you see that, sir?

A. Yes.

Q. And likewise, in the next column, one over to the right, it says APC CC.

And do you know that CT and CC stand for combustion turbine and combined cycle?

A. I do.

Q. And so you do see that, that there are 25 900 megawatts of CCs coming in in this benchmark base case?

A. Yes.

Q. Okay. And so there's a timing element -- right? -- of when these recourses are coming in in this benchmark case, and my -- I guess my first question to you is, you were just representing to us or testifying to us that you verified the renewable RFP results and how the company got from the initial bid to the projects that were passed onto you; is that correct?

A. Yes.

Q. Okay. And are you familiar with how the benchmark base case plays a role in that process the company used to dwindle down the initial bids to the ones that were passed along?

A. Yeah. The benchmark case, as I refer to as the expansion plan, becomes part of the company's energy budget production cost modeling. That's a mouthful. But annually, we produce from that a long-term projection of avoided energy costs, and that long-term projection of avoided energy costs is then used to evaluate a solar resource against.

So every solar resource would essentially be evaluated against that -- it's literally

every hour of every year for 30-plus years has a dollar figure, and every megawatt hour of solar generation avoids that dollar figure, and the math adds up to provide the energy benefit of the renewable resource. That long-term projection has this or a version of this type of expansion plan underlying the production of those avoided energy costs.

Q. And in terms of all of those variables that you just described to us, the timing of when a unit comes in impacts those variables and the outputs; right?

A. Yes. That's one of the many moving parts of the analysis.

Q. And you know that the company did not go out to market to see what the market would offer in terms of solar project or solar panel battery even coming in in 2025; right?

A. I believe that that was not done.

Q. Okay.

A. My understanding is that the renewable RFP asked for projects to come online well prior to 2025.

Q. And because of that fact, you don't have analysis one way or another to ensure this commission that if the company were to do what it's suggesting would be a reasonable course in the expansion, which is to add, you know, 900 megawatts in the year 2025.

You have no analysis of the head-to-head comparison of what adding a similar amount of solar in '25 would do the economics of the customers, do you?

A. I don't have that evaluation. I can tell you that if the generic model had built a bunch of solar out in the future, it would reduce the value of the solar that we analyze in this proceeding. You have solar competing with solar, which it's well-established in the industry that every increment of solar is slightly less valuable in the increment for an energy basis.

And so actually, an expansion plan that is absent of solar provides the solar that we're evaluating, sort of it's first-in-line value. And so while you can argue that, you know, the

future will play out slightly different, if anything, it gives a slight benefit to the evaluation of renewables.

Q. I appreciate that opinion, sir.

But in terms of this trend line that we're seeing of the cost of solar coming down, you know, the actual in-service date of solar tacking on all of these things, there's lots of variables that go into what the economics of any particular resource might be; right?

A. Yes.

Q. And so not having performed the analysis, you can't really verify or present analysis for the commission to independently verify how changing this benchmark case would have influenced the entire paper trail and included the results that you're presenting to the commission.

You just didn't perform that analysis, so you don't know; right?

A. It is not the analysis we performed.

MS. CSANK: Your Honor, I think we can bring everyone back in.

THE COURT: Okay. All right.
Everything can come back in now.
BY MS. CSANK:
Q. So earlier we were discussing that standard of modeling tools used in the industry, and you were identifying some potential pros and cons to AURORA over STRATIS.
Do you recall that?
A. I do.
Q. And I think you were talking about how you feel that there may be advantages, et cetera.
Is there documentation of the evaluation of the pros and cons of AURORA over STRATIS that you're presenting to this commission?
A. I'm not presenting any of that, no.
Q. Okay. In terms of generically, though, specific modeling tool aside, what are the benefits of modeling over spreadsheet analysis, if you know?
A. Sure. I think the general benefit is when you're looking at dispatchable resources. It's very hard to spreadsheet your way into a proper solution, because the dispatch of every unit

affects every other unit. And so it becomes a very difficult sort of brute force solution, and so production cost models were designed to accomplish those simulations very efficiently.

Q. And so here, you did use spreadsheet analysis?

A. We did not use spreadsheet analysis to determine the energy for production cost impacts of dispatchable resources, so no. We used spreadsheet models but not to the degree of what I just explained the benefit of production cost models work.

Q. What did you use the spreadsheet models for or spreadsheet analysis for?

A. So the spreadsheet analysis was used to determine the energy benefit of the solar consistent with how I described that several moments ago. And then we also used spreadsheet just to sort of tabulate various results and do, you know, math.

Q. Would you agree that modeling for that purpose that you just described or renewables is possible?

A. Yeah. Production cost models can analyze -- must take resources, and some of them, to my understanding, do it more efficiently and maybe to a higher degree of specificity than others do.

Q. But you didn't use that kind of evaluation methodology?

A. We did not use a production cost model to develop the energy benefits of the renewable resources that's in this analysis.

Q. And because you don't know it, you can't tell the commission one way or another how that would have influenced the outcome?

Yes? No? Is that --

A. I am going to testify to this commission that it would not have made an appreciable difference, and that opinion is based on the extensive work we've done for Alabama Power and our other affiliates over the last six years in procuring what's over 3,000 megawatts of renewable generation in our system.

Q. So trust you?

A. You can trust me. You can trust the

oversight that we have in other jurisdictions. I think there's a lot of reputable people that you can trust on this one.

Q. Okay. You also use spreadsheets to rank order the thermal resources, did you not?

A. Yes. We used a spreadsheet tool to take all of the various cost components and produce a ranking.

Q. Does that have anything to do with the limitations of STRATIS?

A. I don't think it has anything to do particularly with the limitation of STRATIS. It certainly has to do with the way we choose to use STRATIS in our evaluations.

Q. You refer to a portfolio analysis. What does that mean?

A. Can you help me, where I refer to that?

Q. I think you referred to it in your opening statements, sir.

A. Yeah. We mention a portfolio, and I think we used that nomenclature to describe the set of resources that we proposed to the portfolio resources. I don't think we particularly claim

to have done a portfolio analysis, if that term is important to anyone.

Q. It is, sir.

In terms of a portfolio analysis that you didn't do or don't claim to have done, can you please explain what that would be?

A. Yeah. Detailed in my direct testimony the analysis that we did, which was to look at each resource --

Q. Before you go on, because it is already in your direct testimony, if you could just answer the question.

A. Okay. I think the question was what did we not do. There's a lot of things that we did not do, so it's hard for me to describe everything that we did not do.

Q. Okay. It wasn't that open ended. I was asking what a portfolio analysis is since you had just referred to that term.

A. Generically speaking, I would think the portfolio analysis would take resources opposed to how we look at them one at a time and sort of shake them up in a bag and look at them in

little groups.
Q. And just so that we don't take things literally, you wouldn't put them in a bag, would you?
Can you just be a little more technical in describing the portfolio analysis?
A. I think our expansion plan would fall into that category of a portfolio analysis. The model looks at some resources it can choose from, and it chooses some, and sometimes it will pick one of these and one of those, and sometimes it will pick one of each of these, and it builds a portfolio. So that's an example of what I would interpret portfolio analysis.
Q. And as applied here, the petition in this case, the proposed resource editions are often referred to as a portfolio; right?
A. Yeah. I think that's just a definitional kind of semantic. It's a group of resources.
Q. Okay. So that group wasn't compared in your analysis to other potential groups?
A. No, it was not. Every resource was compared to the other resources, and then the

best resources were ranked in order. And the portfolio was made up of the top individually ranked resources.

Q. Okay. And I think we're almost done with this.

But you agree that it's possible to analyze different groups of resources against each other. Indeed, that's what you said the benchmark base case is a product of?

A. It is possible, yes. I mean, every choice of analytical approach again has pros and cons, and we weigh those as we select how we want to approach the analysis.

Q. Have you done such portfolio analysis for other retail companies?

A. I'm not aware of an RFP analysis being done in that particular sense.

Q. Okay. And I just want to quickly touch on this. You heard discussions this morning about a Southern ethics policy.

Do you have any documents of how that policy is implemented?

A. I don't have on hand any of those

documents. I'm going to venture that our ethics and compliance groups maintain documents around the training and exposure that we all get through our ethics policy. I don't think they were requested in discovery, so I doubt they were provided.

Q. Was that ethics policy implementation group that you just referenced directly involved in development of this case?

A. I don't know the answer to that.

Q. Part of your analysis was measuring the so-called ICE factors of various generation resources as illustrated in your Exhibit 2 to your deposition, but we don't need to go there.

Can you tell us what an ICE factor is?

A. I can. An ICE factor, it stands for Incremental Capacity Equivalence, and it's a measure of the reliability contributions of a resource.

Q. What do you mean by "reliability"?

A. We had some discussion yesterday about reliability modeling. One of the outputs of a reliability assessment is an amount of expected

unserved energy that's a metric of reliability. In an ideal world, that would be zero, but it's not what we get in our analysis. And so a resource's ability to decrease that uncertain energy in analysis is what drives the ICE factor.

Q. Southern Company has not previously used that type of analysis in seeking other resources initially; is that right?

A. That's not right.

Q. Okay. Explain.

A. The ICE factor calculation is a component of the renewable analysis that have -- or the renewable solicitations that have taken place in Georgia. It's also a component of the calculation for a lot of demands of resources so that those are properly accounted for as those programs are implemented.

So there's an reasonable amount of regulatory adoption of this approach.

Q. Okay. But specifically, in your deposition, we were discussing the ICE factor analysis that you performed for the purposes of

this case, and that hasn't been relied on elsewhere?

A. Specifically for batteries, this is the first opportunity Southern Company has had to the bring forth a battery project for a capacity need, yes, ma'am.

Q. So by exception, none of those other regulated commissions have reviewed an ICE factor analysis like this one for batteries, have they?

A. They have not, at least not presented by our company. They may have other companies they that regulate. I'm not privy to what they have seen from them.

Q. Just bear with me one moment. I'm going to attempt to streamline my questions.

So earlier, we were discussing this carbon price sensitivity analysis.

Do you recall that?

A. I do recall us talking about the carbon price that we included in two of our four scenarios.

Q. And specifically, you chose to use a $20

carbon price?
A. The company has chosen one of its scenarios to be a $20 carbon price, so that's what we used for our analysis.
Q. And you agree that the prior administration used a higher cost of carbon than $20?
A. I'm not familiar with the specifics of what was used by any particular administration. I assume we're talking about federal government for the administration.
Q. Yes, sir.
A. I'm not -- I'm not familiar with the specifics there. I am familiar and even reviewed some various carbon price forecasts. I do want to mention and be clear for the record why we picked a $20 price. It does escalate. And so does it stay at 20? In fact, it grows to exceed $100 per ton throughout our evaluation period.
So just trying to give a little context of what we call carbon price is really referring to the starting point in some $900.
Q. Okay. Well, in any event, the conversation

that we had earlier at your deposition, you acknowledge that the prior federal government administration had a carbon price of at least $37 per ton in 2015?

A. Yeah. I don't recall acknowledging that specifically, but --

Q. Subject to check.

A. Sure.

Q. And you didn't run an analysis of a carbon price that high, did you?

A. Again, to just say the carbon price is 20 or 30 totally ignores the trajectory. So what I can say is we ran a carbon price that started at $20 and escalated above inflation, so it grew in real terms. And to take a little context, that growth is not insignificant.

Q. Okay. And, sir, if you would turn now to your Exhibit 1 to your direct testimony. Forgive me. I've lost the paper. Let me just locate it.

And so like Mr. Hill, I'm not looking for you to verbalize any confidential information. I'm just looking to ask you a few questions

hopefully without doing so.

So this short list economic analysis summary, can you just briefly remind us what this is?

A. Yes. This is a list of the projects, and it includes what we call short lists, which were the projects that have been proposed, plus the other projects that had persisted through our analysis the farthest. So they were sort of next tier that didn't make the proposal, so those are listed in A generic sense. And it just shows their relative rankings on a dollar per KW, and it shows the sort of total cost analysis for the four different scenarios as well as the average across those four scenarios. That's all summarized on the table.

Q. Okay. And there's some green shading in this table, and then there's font that's gray that has a white background.

Can you just explain what the distinction is between the green-shaded area and the white-shaded rea?

A. Yeah. The green-shaded area encompasses

what we're seeking certification for. The ones that appear to be a shaded font and aren't green are the additional projects that made the short list, but didn't make the final certification request.

Generally, you should realize or observe they're ranked in least cost to greatest cost, according to the average network of value column.

Q. Right. And in terms of the top five least cost resources, there again, the solar and battery projects in your petition?

A. Yes, that is -- that is true.

Q. And again, without identifying the actual dollar amounts of these NPV values, again, that's net present value, what does that mean?

A. The net present value is just a way to take a long stream of values and take one present value that accounts for the time value of the money in a comparable sense. So you can compare one value to another in sort of today's buying power.

Q. So in plain language, is this attempting to

compare the totality of costs associated with one resource versus another?

Is that what it's trying to do?

A. Yes.

Q. Maybe that wasn't such plain English.

A. It worked.

Q. And there's a pretty big range; right?

The top ranked solar project has a sort of negative value, and remind us what the negative value would mean?

A. In this case, a negative value would just indicate that the values that we quantified were greater than the costs that we quantified. And so it ends up making the resource rank very well comparable to the other resources.

Q. So in the scenarios that you thought were reasonable and should be presented to the commission, on average these projects were potentially saving customers money is basically your finding; yes?

A. Yeah. If you look at the value -- let me just answer the question. Yes, they're high value projects saving customers money, and we

think that by bringing forth the lowest cost where it's saving customers money, none of these resources are free. I think it's important to understand.

As I think Mr. Kelley referenced, sometimes the resource can provide enough energy benefit to offset its cost. That's observed. Some resources, that's observed in certain cases. There is no resource where that's observed in every case. And so there's a lot to sort of maneuver through in the numbers. So generally, a negative number is a good thing in this evaluation.

Q. So can you at least agree that you're generally finding that these solar battery projects in the petition put downward pressure on the overall system cost and customer costs that would be passed on?

A. Yeah. Relative to alternative resources, this analysis would say those projects will put downward pressure on cost.

Q. And remind us what alternative resources are you referring to there?

A. Well, on the page, there's a list of project A through I. So if you were to drop any one of 1 through 8 and replace it with A through I, the net impact will be a costlier portfolio resource.

Q. So your statements were to be understood within the confines of this document and this analysis; right?

A. This analysis is intended to compare the resources that we identified through the solicitations with one another and show us ones that make up the most cost effective portfolio resources.

Q. Okay. And, sir, now, if you would look at the eighth ranked resource, which is Central Alabama.

A. Yes.

Q. And that has a positive average NPV; correct?

A. It does.

Q. And I think I'm allowed to say that it's multiple times larger and positive as compared to the first ranked resource?

A. Yes. That's why it's in eighth place.
Q. Right. And there's a big range there between the top rank and the eighth rank; correct? The numbers are what they are, and the rank --
A. Yeah. They are what they are and you can -- there's a difference.
Q. Okay. And so putting aside projects 9 to 17 on your list, do you have any other analysis of whether there are other options within this range between the first rank and the eighth rank resource available to the company in the market? I mean, that's a big range.
A. We don't have any evidence that there is a resource out there that's in that range that is available to us and is not on this list.
Q. But you, yourself, were not tasked with doing that verification and due diligence to make sure you weren't missing something in this big range available on the market?
A. No, I wasn't tasked. I think the premise of an RFP is you task the market with bringing their best resources, and that's what we

analyzed.
Q. And as I'm sure you heard in my conversation with Mr. Kelley yesterday, beyond the initial end point of the RFP in the sense -- let me strike that.
After the bids were received, there were subsequent discussions and negotiations with various market entities. Those are undocumented. They're not here before the commission.
And so I'm just trying to understand, as part of that process, were you engaged to ensure that those negotiations properly identified potential least cost solutions that fall within this range or maybe even better than this range?
A. I recall the conversation yesterday. I don't know if Mr. Kelley specifically said, so I'll add a clarification that those conversations were with the people that bid. We didn't go initiate conversations with non-bidders to beg them to come add something that wasn't bid. That seems to undermine the integrity of an RFP.

So to the extent that someone bid, and as we evaluated the resource and talked to that counter party, we thought there was maybe some mutual benefit in them reducing their price or alternating a term to some extent. We did that, because it was in the confines of the RFP. But we did want to respect that process as it had identified the bids, bidders, and projects that, you know, we requested from the market.

Q. And thank you for that clarification about the integrity of the RFP and the protocols to the bidders bidding.

Was there any contemplation of a subsequent RFP to make sure that the competitive market was aware of these additional considerations that the company wanted responses to?

Yes? No? Then you can explain, sir.

A. No, we didn't contemplate running a second RFP. That would seem to deviate from a normal practice.

Q. But you would have done it?

A. I'm not aware of anything that would have just been prohibited from doing it other than it

would be timely. I mean, it would take a lot of time, and the processes we got to today, it's already a pretty lengthy process, to just impede progress when we had some good resources to consider. I don't think it was ever contemplated as the right thing to do.

Q. But isn't this whole exercise about optimization, not just it's good enough, but actually making sure you're getting the best for your customers?

A. Yeah. I think there's a balance in optimization pragmatism, where you mentioned you have to move forward and make a decision. It's one of the great concepts in life; right?

At some point, I have to put the pen down and move forward and make a decision. And I think Alabama Power did a really good job of balancing working hard to get these counter parties to provide as competitive a price as possible, but in due time saying this is what we have. We're going to move forward. We believe it's valuable to our customers, and, you know, in making a decision.

Q. Do you disagree with Sierra Club witness Detsky's recommendation that additional resource procurement is still feasible and would be timely in terms of the company's identified needs?

A. I believe I do disagree with that based on how I've observed this process play out in understanding and believing that Alabama Power has an imminent need to respond to their capacity deficit.

Q. But you have no analysis that says an RFP wouldn't be timely, like the one Mr. Detsky recommends?

A. I can only speak to the timeline that we've observed. I believe it's been documented and provided in discovery that this process has now taken somewhere close to a year and a half. And so I project another year and a half seems to be getting very close to a period in which many of the people that are concerned with the reliability of the system would have great ability to serve our customers. So that's the only evidence and documentation that I can

provide.
Q. And just to be clear, you were not tasked, I think, as we established at the outset, to analyze or verify the analysis around the claims.
That was Mr. Weathers' team?
A. Yes. No, I was not asked to make the need determination. That is a different group within Mr. Weathers' organization.
Q. Okay. And you're aware of Mr. Kelley's testimony that the company still plans to go to the market in the fall to procure renewables?
A. I did hear Mr. Kelley say that yesterday.
Q. And you haven't performed any analysis or know how that would impact the results of your analysis and whether it would identify additional resources that might be better than the ones that you studied?
A. The only analysis I have is that over the last several years, every renewable solicitation tends to produce lower prices than the one before it. Now, that presents a very interesting dilemma for planners. You can argue

we should never do any renewal projects, because I can always wait and get a cheaper one later. But again, we have to pragmatically balance, you know, taking forth the opportunity in front of us or perpetually foregoing opportunities in hopes of a better win tomorrow.

Q. Sir, I think you went beyond the extent.

If you recall my question, if you could just answer it, and then we can wrap up pretty quickly.

A. I think I did answer it.

Q. No.

A. I -- I think the question was have we -- it always seem to be have we done analysis of it. I'm going to assume that was the leading.

What was beyond that.

MS. CSANK: Madam Reporter, if you could read it back.

(Whereupon, the court reporter read the requested portion of the record.)

THE WITNESS: No. I think we established that I don't do the analysis for

the renewable RFPs that Alabama Power runs.
BY MS. CSANK:
Q. Thank you, sir.
Just one final thing. We were talking earlier about environmental justice.
Do you recall that?
A. I do recall that.
Q. And I think one of the ways you said that you reassure this commission that the petition would address environmental justice is because of your opinion that the resources identified are cost effective.
Is that what you said, something along those lines?
A. I think it's a slight mischaracterization of what I said. I don't think I made any particular statement to addressing the environmental justice. I believe what I said was it's intended or a belief of ours that supplying low cost reliable electricity to our constituents is valuable to them. And I might have gone as far as saying it could be considered more valuable to those that are in

positions of need than for those that are in a position of abundance.

Q. Thank you for refreshing my recollection.

So I think your testimony was that a low cost electric service would be a benefit to particularly low income customers, for example. Is that something you agree with?

A. Yes.

Q. But you don't have a cost benefit analysis of what the pollution costs are, particularly to those fence line communities who bear the brunt of the pollution of the gas units in the petition, versus whatever costs savings you're claiming; correct?

A. Not entirely correct. I think I have tried to describe that we trust the policymakers to help us quantify those, and then we analyze the policies that we are mandated to operate within. And that's the way we deal with those impacts in a way that's practical for our business.

Q. Okay. But in terms of low income customers who also may be living, working, or recreating near these gas units, you don't have any sort of

analysis specifically honing in on how they fair under this petition?

A. At an individual level, no, we do not.

Q. But even as a constituent, you don't have analysis of that constituency?

A. It's not part of my analysis, no.

MS. CSANK: Thank you, sir, for your time.

THE COURT: Brings us to Energy Alabama/GASP. And if you'll make sure that microphone is fairly close to you, Mr. Johnston. You project pretty well, but just be mindful of that.

MR. JOHNSTON: Gotcha.

CROSS-EXAMINATION

BY MR. JOHNSTON:

Q. Good afternoon, Mr. Looney.

A. Good afternoon.

Q. How are you?

A. Doing well.

Q. I'm Keith Johnston. I'm with the Southern Environmental Law Center, and I'm here representing Energy Alabama and GASP. And we

have met during a prior deposition.

I guess, to start, I just want to make sure that we've covered all of this, and I think we pretty much have, but a yes or no answer will suffice. Then we can quickly get through this.

You didn't participate directly in any benchmark analysis; correct?

A. Correct.

Q. And you didn't directly participate in the development of the IRP; correct?

A. Correct.

Q. And Alabama Power performed the first initial screening of the projects; correct?

A. I don't think that the characterization or that they reviewed the bids for conformance with the IRP requirements, they didn't do an analytical screen. The analytical evaluation, we performed.

Q. Alabama Power handed you the battery repair storage projects; correct? The analysis?

A. Yeah. But substantial portions of the analysis was done by Alabama Power and then provided to us for review and inclusion in our

overall ranking.
Q. And SCS transmission did the transmission analysis; correct?
A. Yes.
Q. And you testified that you have very limited involvement with the renewable RFP; correct?
A. Yeah.
Q. And you weren't involved with the Barry turnkey?
A. Not the development of Barry turnkey. Again, all of the economic analysis was ours, the evaluation of the resource.
Q. And, of course, you couldn't have been involved with the 200 megawatts of management, because that hasn't been chosen; correct?
A. Correct. We're not involved with that.
Q. I want to turn to the solar storage proposal.
And as you have stated, and you stated in your deposition, the batteries and solar prices have declined pretty significantly in the last several years; is that correct?

A. I don't remember the exact manner in which I characterized it, but there are meaningful declines, I think, might have been my term.

Q. Meaningful declines.

And you limited your analysis of the battery repair storage to two-hour batteries?

A. That's not entirely correct. In the original capacity RFP, we received bids for standalone batteries. I believe there were some four- and eight-hour batteries. Those were evaluated. Unfortunately, those projects were not found to be cost competitive with the majority of the other resources, and so we moved on from those projects and found an opportunity to evaluate some two-hour batteries under the very particular use case that appear to be valuable.

Q. But that took place in a renewable RFP -- correct? -- which you had limited involvement?

A. I think the solar projects were identified in the renewable RFP, and then Alabama Power, through a process that we were involved with, determined that it might be possible to pair

some of those more valuable solar projects with some short duration batteries; thus, there were some conversations with those bidders, inviting them an opportunity to bid such a project in which they did, and then it was evaluated through the due process that's been discussed here ad nauseam to -- it found its way in our ranked portfolio.

Q. But again, you weren't involved in the renewable RFP?

A. In its original form, I was not involved.

Q. Is that a yes?

A. Yes. Yes, I was not involved in the renewable RFP as so long as it was in its original contemplated form, which was renewable only projects.

Q. So you stated that there's currently -- you testified that there's currently zero megawatts of batteries in the current Southern system?

A. I probably did say that. I should probably clarify that my intent of that statement was there's none that's really providing a capacity-based resource. I do think we have

some little projects that are research development type functions. So I don't want to mislead the record there. There are some small projects here and there, but nothing that's serving a real capacity-based need.

Q. On your deposition on page 41, 7 through 9, lines 7 through 9, the question was, "How many two-hour battery capacity currently is on the Southern sytem?"

You said, "Zero."

A. Yeah, I think that's fair. Two-hour batteries.

Q. You didn't seek any additional battery projects beyond the 400 megawatts of this portfolio?

A. Again, as I just mentioned, there were a number of longer duration batteries that were openly authored by the market. We did evaluate those. I think Mr. Kelley testified that there were an additional -- I don't remember -- several hundred megawatts more. I can't remember the exact number. I want to say maybe 560 megawatts more of projects that they

identified, and through their process of which I described we cooperate with and partake of, they screen those projects out based on economics.

Q. Was that screened out because of the ICE factor or the incremental capacity equivalency factor?

A. I think they're screened out in combination of reasons. A decline in capacity equivalence certainly contributes to that, but also projects were found to have some site specific transmission constraints that would have presented additional costs.

Q. You testified a number of times that the battery repair storage was the most cost efficient project in your analysis; correct?

A. Yes.

Q. And that those projects provided energy benefits hourly across all seasons in the capacity benefits in all seasons; is that correct?

A. Yes.

Q. And from your analysis and from what we have seen at 500 megawatts, the battery ICE, or

the incremental capacity equivalency, you claim starts to decline; is that correct?

A. Yeah. And that's specifically for a two-hour battery. So the ICE factor for a battery is a function of its duration. So the way the capacity equivalence of a 12-hour battery would behave very differently than a two-hour battery even relative to penetration.

So what we found in the market solicitation is that the four- and eight-hour batteries aren't competitive with the other resource. The two-hour batteries were; however, our system has a limited appetite for two-hour batteries at a high capacity equivalence, and that 400 megawatts comes close to satisfying that appetite.

Q. And first, explain -- this is my terminology, and we can explain it better, but the 85 percent cutoff of the ICE factor.

A. Yes. I attempted to explain the way we calculate ICE factors before in that you do a reliability and evaluation, and you see how much expected and uncertain energy can be mitigated

with a reference resource. We use a dual fuel CT for a reference resource. Just think of that as a nonenergy limited dispatchable resource, and then you run a similar analysis with a resource that might be partially dispatchable, non-dispatchable, or limited, and use the number of reasons, and you get a relative improvement in reliability.

What we found is the two-hour battery mitigated somewhere between 85 and 92 percent of the expected uncertain energy was mitigated by the CT, so that establishes the ICE factor.

Q. So is the ICE factor in a sense almost like a capacity factor or the equivalency thereof?

A. Right. I mean, I use the term capacity equivalence interchangeably with ICE factor. Capacity factor has other meanings than we talked about that earlier. It could be a measure of how much a unit runs. So you got to be careful about some of these terms that can mean a lot to certain people in the industry. I try to define them well.

Q. And so when you applied the 85 percent ICE

factor, does that apply before or after selection of the battery plus storage, BSS projects?

A. I think, as I recall what happened, I think you could appreciate that energy storage is a topic that a utility, such as ourself, would spend a lot of time thinking about and analyzing right now, and so we were doing this type of analysis. And we found in the course of these last eight months some period that it appears that a two-hour duration battery as a high capacity equivalence for some amount of megawatts, and we discussed that with Alabama Power, and their response was, well, we ought to go and see if that's a product that the market could provide.

So really, the 85 percent drove the request for two-hour batteries, and then the process worked out that we found certain projects, evaluated them, and brought forth 400 megawatts of energy storage.

Q. So the choice of the 85 percent at ICE factor drove how you guys analyzed those BSS

projects that made the short list?
A. I think that's a fair characterization.
Q. And for the first 500 megawatts, the equivalency was greater than 85 percent?
A. Yeah. We ran an analysis several times, and just based on the type of analysis, the numbers, they bounce around. You might bet a 92, you might get an 89. They seem to sort of coalesce around 85 to 90. There are some constraints in the contracts, and so we took a little bit of a conservative approach in saying, you know, we got this range of the ICE factors, the contracts have some discharge constraints. We don't think that the constraints are meaningful from a reliability standpoint, but it was a measure to be a little conservative about. That conservatism didn't hinder the economic standing of the projects. So in all, we felt good about the application of the 85 percent ICE factor.
Q. So you added these -- in your analysis, you added these batteries to the first tranche, 250 megawatts; correct?

A. I think the analysis that you're referring to, we looked at different tranches. So we looked at a 250 megawatt tranche. Not in addition to that but just in place of that, we looked at a 500 megawatt tranche. Again, not in addition but in place of that, we looked at a 750 megawatt tranche and on and on.

And as you describe what we saw is after that -- the 500 megawatt tranche had a high capacity coolant, the 750 megawatt tranche had a diminished, and then we did some math to kind of estimate the incremental impact of going from 5- to 750, to think about what would that next 250 be, and it was greatly diminished from the 85 percent.

Q. So in both of those initial tranches, the 250 megawatts, the 500 megawatts, both of those were north of 90 percent ICE factors?

A. In that particular analysis, yes.

Q. So very high?

A. That's right, capacity factor.

Q. And then you state that there was a significant fault after that in the 750 tranche?

A. Yes.
Q. In your deposition, you stated that it would have been closer to 50 percent in the 750 megawatt tranche?
A. Yes. I recall saying that and still believe that that's an accurate --
Q. It was a 30 to 40 percent reduction from the 500 megawatt tranche to the 750 megawatt tranche?
A. Yeah, that sounds right.
MR. JOHNSTON: Your Honor, may I approach the witness? And may I approach counsel, Your Honor?
THE COURT: Yes.
MR. JOHNSTON: We had agreed that there was -- you're going to waive confidentiality on this document? I just want to make sure.
MR. GROVER: Which one was this?
MR. JOHNSTON: This was his work papers, the Exhibit 2 to the deposition.
MR. GROVER: Yes, we agree to that.
MR. JOHNSTON: Yeah, for that

1 particular tab of the work copy.
2 MR. GROVER: That's fine.
3 BY MR. JOHNSTON:
4 Q. I'm going to give you a copy. I printed
5 this out on an Excel worksheet, so I did the
6 best I could.
7 A. That was a challenge, to print Excel.
8 THE COURT: You want this marked as
9 Alabama GASP 4?
10 MR. JOHNSTON: That's right.
11 THE COURT: Document will be so
12 marked.
13 BY MR. JOHNSTON:
14 Q. Okay. Help me walk through this document,
15 please.
16 A. Where do you want to start?
17 Q. So you recognize this work; correct?
18 A. Yes.
19 Q. And is this your work?
20 A. It is work from my -- from the team that I
21 manage.
22 Q. And who was on that team?
23 A. The individual that performed this

analysis, his name is Dean Moncrieff.
Q. And this is data that has been analyzed and displayed in a chart in graph form?
A. That's correct.
Q. And this is the results of y'all's analysis; correct?
A. That is correct.
Q. And this shows the ICE factors for those various tranches that we were just discussing; is that correct?
A. Yes.
Q. So looking at the first line under annual of the 250 megawatt tranche, we see a base case, we see tranche one CT. I assume that's combined combustion turbine.
A. That's right.
Q. And tranche one battery. That's 250 megawatts of battery; is that correct?
A. Yes.
Q. So the ICE factor or capacity factor of these batteries at 250 megawatts, you guys found would be 92 percent; is that correct?
A. That's right.

Q. And then moving down to the 500 megawatt tranche, that would be 94 percent?
A. Yes.
Q. So those are very high percentages as far as the efficacy of these batteries to provide capacity factor; correct?
A. Yes.
Q. In looking at tranche three, 750 megawatts, it shows 79.66 percent or almost 80 percent?
A. Yes.
Q. So in your deposition, you stated that it would have averaged close to 50 percent.
Can you explain that discrepancy?
A. I can. This is where you have to be careful with the numbers. So the first 500 megawatts are giving you in this case 94 percent contribution. All 750 of the next analysis, which, again, is not in addition to 500, it's a 750 megawatt tranche, instead of 500. All 750 of that, on average, giving you 80 percent. But the first 500 of that 750, you already know is giving you 94 percent. The next 250 has to be giving you something much less than 80 percent

to drag the average down from 94 to 79.

And if you sort of run that math through, that 250 is giving you something close to 50 percent in order to drag the average down from 94 to 79. And so it was a way to take this tranche, look, and then think about the incremental impact of that 250 that took you from 500 to 750.

Q. So you're saying that the 750 megawatt tranche does not, in fact, give you results in a capacity factor of 80 percent?

A. Well, if at one time you blindly got 750, so all I'm going to analyze is 750, you would leave saying I'm getting 80 percent contribution from that 750. We happen to know that we already would have gotten 94 percent from the first five, so that gives us an insight into what's just that incremental 250 doing. Just that incremental 250 is giving me something closer to 50 percent, because we have insight in the analysis on what the first 500 was giving you.

Q. So let me make sure I follow you. The

first tranche, we have 92 percent, and that's 92 percent capacity factor. The second tranche, we have 94.3 percent, almost 95 percent, capacity factor.

You're saying the decline in that capacity factor in the next tranche is not as valued as the first two tranches?

A. I don't know if that's exactly what I'm saying, so I'll try to answer the question. The first 250 has high equivalence. The 500 has equally high equivalence. So that should say the second 250 behaved very similarly to the first 250, because the equivalence was very similar, okay?

The next 250 did not behave like the first or second 250, because the 750 tranche did not look like the 250 or the 500 tranche. So did we step back and say, well, what was the incremental impact of going from 5- to 700, and you have to work with the numbers a little bit, but it derives the 50 percent number.

Q. It looks like you have to work with the numbers a lot?

A. You don't really. You take the 500, you multiply it times the ICE factor, you take the 750, and you multiply it times the ICE factor, you do some differences, and you divide some things out. It sounds more complicated than it is, and that's just the nature of analyses at times.

Q. Let me ask you this. If the ICE factor was 75 percent, would tranche three fit in your analysis as an economic alternative?

A. If the incremental ICE factor of the next 250 was 75 percent, I don't know with any certainty. Because that's not what it was, so we didn't analyze it. I don't know any certain --

Q. I'm saying if your ICE factor was not 85 percent but 75 percent.

Do you see what I'm saying?

A. I kind of see what you're saying, but all I can say is we didn't run those numbers.

Q. Okay. But there is the possibility that that next tranche would have made a cost effective --

A. Well, I think there's some --
Q. Is that a yes or a no?
A. No, I don't -- I don't think so.
Q. I think you testified earlier, and maybe Mr. Kelley testified to this as well, where you say it wouldn't be appropriate to look at the cost of the energy, because this is a petition about capacity, about needs?
A. I think particularly what I said is the right metric to compare resources on is a dollar per KW of capacity, not a dollar kilowatt hour or megawatt hour. We certainly look at the value of the energy delivered by the resources.
So I would not -- I certainly didn't say I don't believe Mr. Kelley said or would say you should ignore that. It's just not the right metric to normalize the comparison against in our evaluation.
Q. So in some of the choices in the portfolio, you are certainly looking at the energy savings of those choices; for instance, Barry Unit 8?
A. Yeah. Every -- if you look at my exhibits in my direct testimony, every resource was given

due consideration to the energy savings that it provides. Every resource was afforded that opportunity, and that was what drove the analysis.

Q. So that makes -- part of the attraction of Barry Unit 8 is the energy savings that it provides; is that correct?

A. That's a big component, which is an unexpected given what we've heard discussed here about the offering characteristics of that particular resource.

Q. And shouldn't you compare the energy benefit between all the resources?

A. We did. If you look at the analysis that I have provided, there's a column that says "Energy Savings," and every resource clearly listed there, energy savings and dollar per KW, that's as direct a comparison as I know to provide on the energy savings of each resource.

Q. And you're referring back to your MPL 1 exhibit; is that correct?

A. I am, yes.

Q. Do you know what the capacity factor of

Barry Unit 8 is?
A. Yeah. I believe we discussed this a little bit before. It varies year to year, scenario to scenario. Because of its efficiency relative to -- let me just say the average of our fleet, it runs at a very high capacity factor. I've seen the numbers. I believe many of them to be in the 80 percent range, some at higher than 90 -- at times, it just ran out of availability.
Q. Ran at 100 percent?
A. Well, no dispatchable resource in our model runs at a 100 percent, because we model the forced outages. So even if you called it every hour of the year, because we're modeling forced outages, it's going to trip offline several percentage points of the year, and you'll get something less than 100 percent.
Q. And I think you testified at one point that it could be anywhere from 20 to 80 percent capacity factor for Barry Unit 8?
A. I think, technically, it could be anywhere from zero close to 100. That's the nature of a fully dispatchable resource. You can run it

none or you can run it a lot, and it's all about moment to moment economic dispatch of the fleet, and that differentiates the dispatchable resources from the non-dispatchable resources, and, you know, that's characterized and reflected in our analysis.

Q. So it varies across that percentage of what it is?

A. Yeah. It just so happens that because Barry is very efficient, there's not a list of variation in its capacity factor that is very high, somewhere around 80 percent, throughout the duration of that analysis.

Q. But that wouldn't be the average of capacity factor in Barry Unit 8?

A. I don't have the average available. It is available. I just don't have it with me. My recollection is that's close to the average, give or take, you know, 5 percentage points.

Q. So if we had batteries, if we have 750 megawatts of batteries that had a capacity factor of 85 percent, would that be included in this list of alternatives?

A. Describing a battery with a capacity factor is probably misleading. I mentioned earlier, a battery doesn't generate electricity. It stores it. And so we really think about it in terms of discharge cycles.

Now, you can get production cost savings from charging a battery in one period of time and discharging it in a different period of time, but I don't know if the capacity factor is the right way to describe what's often referred to as an arbitrage of value of batteries.

I would feel remiss to not mention that the two-hour batteries are not intended to cycle a whole lot. Our case of the two-hour batteries, think of it more as an emergency generator given the fact that batteries, they don't actually generate, but they would -- they would discharge in more emergency situations, so their cycles are going to be relatively limited. But they -- but by playing that role, they can have a very high benefit to reliability, because we're going to withhold it until that moment where they're needed most.

And again, you can't build a whole fleet of resources like that; thus, the falloff of the ICE factor that we see. It just appears to be a nice niche opportunity for our company that we're able to take advantage of here in this portfolio.

Q. Did that capacity allow you flexibility? Yes or no?

A. Yeah, the battery capacity allows us to increase flexibility in our system.

Q. Does that help you at peak periods?

A. Yeah. That's why we see a capacity of -- high capacity equivalence, because it helps us in -- you said peak period. We think about reliability in extreme periods. They're somewhat correlated, but yeah.

Q. In the solar renewable RGC that we've discussed, those projects were capped at 80 megawatts; is that correct?

A. That's my understanding. I think I was even shown the RGC filing in my deposition, had the opportunity to read that line and verify it. So, yes, that's cap exists.

Q. Do you know if the commission recommended that cap, or was that the company that recommended that cap?
A. I don't know the answer to that.
Q. Do you know if Alabama Power could request a higher cap, petition for a new RFP there?
A. I'm going to assume they could. I don't know if they're motivated to. Again, I don't know the origin of that cap, so I'm not sure how you're speculating how successful they would be in such a petition, if they were to draw one.
Q. Do you know if there's an expiration date on the renewable RGC?
A. I believe that there is, but I don't exactly know. I thought -- again, I'm not intimately day-to-day affiliated with that. I believe it was a certification that covered a certain period of time, but I don't remember the specifics.
Q. Does five years sound correct?
A. I don't remember the specifics.
Q. You discussed earlier some of the high gas scenarios of your group or the lack of high gas

scenarios that you ran.

You ran a low gas scenario, and you ran a moderate gas scenario; correct?

A. Yeah. I did mention that we ran one in our nomenclature as a low gas scenario when our nomenclature is a moderate gas scenario. I think, to be clear for the record, our moderate gas scenario actually escalates over $15 per MBtu over our evaluation period, which is over 600 percent increase from today's gas prices.

So I don't want the record to state that we're not contemplating increasing gas prices. That's still what I consider to be a significant increase. It just happens to be what's considered the moderate gas forecast in our nomenclature.

Q. Is it your testimony that y'all ran a high gas scenario?

A. I considered the prices in our moderate gas scenario to be relatively high. So I think I would answer the question, at face value, yes. I want to be clear that we have a gas scenario that's called high gas that we did not run, but

these are a bit of nomenclature semantics things that I want the record to be clear on that.

Q. Barry Unit 8 is going to operate for 40 years; correct?

A. Our analysis assumed that Barry Unit 8 would operate for 40 years.

Q. And the forecast for the field service group is just that, a forecast; right?

A. Again, our forecast is really from Charles River and Associates. I think it comes with the blessing of our fuel group, but it is just a forecast, yes. And actually, we have two different forecasts.

Q. Who bears the burden of a high-risk scenario as far as prices are concerned?

A. Can you define the "high-risk scenario"?

Q. Will customers bear that burden?

A. Generally speaking, under the regulatory contract, customers bear the costs of most, if not all, of the cost to provide the service.

Q. Will the company recover those costs?

A. The company would expect to recover all fuel costs that are prudently extended to serve

the customers' needs.
Q. Fuel is a significant driver in your analysis; correct?
A. I think we find that the fuel is a very important factor in making resource decisions, and I don't think that that is any different in the analysis that we did.
Q. So in your deposition, the question was, "So fuel is a significant cost driver in this analysis; do you agree?"
And your response was, "Yes. I think it's a meaningful component of the evaluation."
A. That sounds like something I would say.
Q. So over the life of Barry Unit 8, would the fuel cost compare to the magnitude of the capital cost of that unit?
A. Yeah. According to way we expect the unit to be dispatched, it will. I think it's important to understand that there is no incremental fuel cost because we build Barry 8. There's a shifting of fuel cost from one resource to another. The result of Barry 8 is that the overall fuel cost is decreased, so

there's no addition -- our customers aren't going to be paying for one extra molecule of fuel. They'll be paying for fewer molecules of fuel. Which resource that that commodity goes to, you know, is irrelevant in the overall cost to operate the system as long as you capture a cost going up or cost going down.

Q. In your deposition, on page 76, lines 15 through 17, and I quote, "Over the life of the unit, I would expect the bill cost to compare to the magnitude of capital cost."

Do you still agree with that statement?

A. Based on how we expect the unit to run, yes, and I would further say that's a good indication that the utilization of the resource will be high. If the fuel cost for Barry was significantly close to zero, that means the utilization of the resource would be very poor, and we'd be making am imprudent decision to build a resource that was hardly ever going to run.

So, you know, you got to consider both sides of this equation that high fuel cost means

high utilization, which means high value to customers, and so I think by presenting fuel savings, we give the commission the appropriate metric by which to gauge their decision.

Q. On the debt equity ratio, which is something that you included in your analysis of these projects, you assumed the cost per PPA units.

That would change the debt equity ration; is that correct?

A. We assumed the cost for the gas PPAs. We did not assume an equity cost for renewable PPAs. So there were several projects that based on our collaborative interaction with our accounting and finance group, we evaluated an equity cost on several projects.

Q. Do you do that for every analysis that you do?

A. I would say every analysis that includes a contract, the contract goes through a financial review, and then we're given guidance on if the contract's financial review is going to result in an impact to the company's capital structure.

Q. Do you personally know of any rating agencies that have cited PPA or this proposal that would have adverse impacts on capital structure?
A. It's not something I personally follow.
Q. Would PPAs of shorter duration, would that change that number in your analysis?
A. My understanding is that contract duration may be one of the things that drives the accounting review of the contract, and so I would only say that it's considered.
Q. In your consideration, you considered a second unit at Barry; correct?
A. There was a second unit at Barry that was considered, and we did run some analysis on that in some of our early resource screenings.
MR. JOHNSTON: Your Honor, is this a good time to take a break real quick?
THE COURT: I'm good.
MR. JOHNSTON: It would be a good time for me to take a break.
THE COURT: All right.
MR. JOHNSTON: I only have a few. I

can get through this really quickly.

THE COURT: All right. Let's take about a five-min break.

(Recess taken.)

THE COURT: All right. Let's go ahead and get back on the record and resume the cross-examination of Mr. Looney by GASP and Energy Alabama.

BY MR. JOHNSTON:

Q. Okay. Mr. Looney, we were just discussing the second unit at Barry, and that unit was ultimately rejected by the company; is that correct?

A. The unit was not. It was decided not to pursue a second unit at Barry.

Q. And what was the reason for that?

A. My recollection is that there were some relatively high transmission costs to interconnect and deliver output from the second Barry Unit. And that while the unit would have provided a tremendous amount of additional energy benefit, it wasn't -- a cross fit consideration of the whole portfolio decided

that, you know, it was the right economic decision to pursue.

Q. And you had discussed previously with the Alabama Industrial Energy Consumers, you had a discussion with them about capacity values; do you remember?

A. I do remember some discussions around capacity values.

Q. Earlier today?

A. Yes.

Q. And I think the testimony there -- and this is, we should say, distinct from capacity factor. This is capacity value.

A. Yeah. Maybe we can clean that up a little bit with your question, so...

Q. So what's your definition of capacity value?

A. My definition of capacity value, which is more similar to capacity, is a dollar value of the capacity contribution of a resource; whereas, capacity equivalent is a percentage or maybe a megawatt. Capacity value is often a dollar value. Capacity factor is a metric of

how often the unit runs.
Q. So the capacity -- the capacity factor influences the capacity value; is that correct?
A. No. The capacity factor would more directly influence the energy value.
Q. So the battery paired with storage, you said the solar project, the capacity values were around 25 percent.
Was that your testimony?
A. Yeah. Let me clarify in case I mischaracterized these terms. Most solar projects have a capacity factor in the low to mid 25 percent. Now, they have a capacity equivalence that can range -- it can have a broad range based on the reliability situation of a particular utility. I think we've seen them over time range between nearly zero to, you know, numbers that approach 50 percent.
Q. And you were talking about without batteries?
A. Without batteries; correct.
Q. So solar paired with storage, obviously, adds another value, a significant value?

A. Right. The solar paired with storage sort of defaults to the capacity equivalence of the battery, which is more likely 85 percent capacity equivalent that we spoke about several moments ago.

Q. And that's why Alabama Power in part found these projects so valuable, was because those types of projects can help with reliability issues?

A. And the battery part of the project has the reliability contribution, which is really what we sought through these proceedings. For a number of reasons, the resources paired with solar, which brings an additional energy benefit to the resource, and so our analysis accounted for both of those value strings.

Q. You have an energy benefit and a capacity benefit in that example?

A. Yeah. And simplistically, you can think the batteries providing the capacity benefit, and the solar resource part of it is providing the energy benefit.

Q. And so we've looked at two-hour batteries

here, and your extensive analysis looked at those two-hours batteries.

Do you know what the cost of four-hour battery is now; yes or no?

A. No.

Q. Do you know if the costs are coming down?

A. You know, my general understanding is that battery costs have been declining.

Q. What is the nameplate capacity of Barry Unit 8?

A. I believe the nameplate capacity of Barry 8 is 685 megawatts based on its summer -- summer rating, and I believe that's after -- that's just a long-term capacity. As Mr. Bush mentioned, that's built into the contract with the consortium is a turbine upgrade that will happen several years in operation. I think it's a long-term nameplate capacity, at 685 megawatts, based on its summer temperature rate.

Q. What's the winter?

A. I have that listed at 743.

Q. Is that the nameplate capacity of the Barry Unit 8?

A. That's just winter capacity rating, as we evaluated it.
Q. Are you distinguishing between winter capacity rating and nameplate capacity?
A. You know, nameplate capacity is not a highly meaningful term to my evaluation. I really want to know what can the unit provide in each season. I don't know what number will be stamped on the nameplates that the OEM attaches to the side of the turbine.
Q. So you don't know the nameplate capacity for the Barry unit?
A. Right. I have represented the capacity that we can rely on from the unit in each season as its rating.
Q. Referring to your Exhibit MBL-1, and some of that information is confidential throughout that exhibit. I want to stay away from that confidential information, so do not answer any question that would use confidential.
It appears Barry is particularly sensitive to gas prices. Is that a fair statement in your scenarios?

A. I don't observe that it's more sensitive than the other gas-fired resources. It's --

Q. Well, within the gas-fired resources, there are -- they are more similar, yes, than the battery, solar paired with battery --

A. Yes.

Q. -- than the BES project.

But as a whole, in your chart, is it fair to say that as those gas scenarios change, moderate and low gas, it changes the values, net present value, of Barry Unit 8 pretty significantly?

A. It does change the values.

Q. So that -- is that a fair characterization to say that it's sensitive to those price scenarios, those gas scenarios?

A. I think what we actually observed is that the operations of the unit is pretty steady across the scenarios. There's a lot of other things moving in the system, coal units dispatching relative to gas units as gas price goes up and down, and so the total production cost impact has, you know, a meaningful

difference, but that's not directly correlated to the operation of Barry.

It's accounting for the entire dynamics of the system, because we do a full production cost evaluation.

Q. So in a moderate gas scenario, according to your analysis, what are the least cost beneficial projects? And that would be with zero carbon pricing.

A. Yeah. I mean, according to the chart, the solar battery projects are the least cost under the moderate gas zero dollar carbon scenarios, and as I mentioned, our moderate price does have some relatively high prices, and it's gas price increase that enhances the value of a solar facility.

Q. So once gas prices rise, and if there is a gas placed on carbon, which is scenarios that you run, renewable resources have far more value, according to your comparisons; correct?

A. Yes.

Q. You stated that there were multiple tiers in your short list of economic analysis summary,

and you ranked the first eight projects that are part of this petition, and then you have 9 through 17 of the second tier that didn't make the short list; is that correct?

A. Well, they made the short list. They didn't make the long list --

Q. The long list?

A. -- of the proposed portfolio.

Q. So they made the short list, and that's different from the portfolio that you spoke before the commission today?

A. Correct. In the nomenclature we adopted internally to discuss the evaluation, I think I mentioned earlier, I think, there were 55 projects product originally bid in, and eventually, we came up with a short list, which is the 17 projects, and then from the short list, Alabama Power selected eight of those to seek certification.

Q. Okay. I see. And I think you and I were just talking over one another.

And then you had -- you said earlier that tier one was the top eight projects that made

the short list; correct?
A. I don't know if I said tier one. But certainly, those eight projects are what the company selected to seek certification for. And by the exhibit and the analysis, they were the most cost competitive projects that we evaluated.
Q. Were there other -- you said there were 55 projects.
Did you divide those projects into multiple tiers?
A. No. They were just ranked 1 through 55, and then we sort of proceeded from there.
Q. And on your -- the projects in the second tier on 9 through 17 of the short list, all those projects are combined cycle or combustion turbine?
A. That's correct.
MR. JOHNSTON: I don't have any other questions, Your Honor.
THE COURT: All right.
Alabama Solar Industry Association? Ms. Howard.

MS. HOWARD: Yes, Your Honor.

CROSS-EXAMINATION

BY MS. HOWARD:

Q. Good afternoon, Mr. Looney. My name is Jennifer Howard. I represent Alabama Solar Industry Association, and we met during your deposition; correct?

A. Yes, ma'am.

Q. Your analysis shows that the solar plus battery project will provide a reduction in the energy cost for customers; correct?

A. Yes, ma'am.

Q. And we talked a minute ago about the fact that in your modeling, you ran different scenarios comparing proposals under different possible gas prices; right?

A. Yes, ma'am.

Q. And I understand you just placed some qualifications on the nomenclature that we're using on that.

But in your deposition, you characterized it as running models with low and moderate gas prices; right?

A. Yes.
Q. And again, I understand you now to say that the moderate price scenario might be considered moderately high.
But in your deposition, you told us that you did not include a model that assumed high gas prices; correct?
A. In the deposition, I accurately stated that we didn't run the high gas forecast that we have labeled high gas for this evaluation.
Q. And that was because Alabama Power asked you not to; correct?
A. Sort of the inverse of that. They didn't ask us not to. They just didn't ask us to.
Q. Other Southern Company affiliates do sometimes ask you to run modeling for a high gas price scenario; correct?
A. Yes. Other affiliates as well as Alabama Power Company at times utilize the high gas forecast for certain analyses.
Q. And your modeling of potential future gas prices was not intended to capture a worst case scenario for gas prices, was it?

A. I don't think we intended to capture an extreme high nor an extreme low, just two reasonably possible gas forecasts.

Q. And you're modeling for the cost of the proposed gas resource editions does not include any potential costs retrofitting them with carbon capturing and sequestration equipment; correct?

A. That's correct. Our analysis contemplated carbon constraints through a carbon price, not a retrofit of controlled technologies.

Q. Yes, sir. And we touched on this earlier. We talked about the $20 figure.

I just wanted to clarify, you're modeling did not include an analysis of the possibility of a carbon tax higher than a starting point of $20; correct?

A. That's correct. The modeling, as I've testified to, included a carbon price that started at 20 percent and arose at a degree above inflation throughout the evaluation period.

Q. You meant $20, not 20 percent; right?

A. Yes, ma'am. I'm sorry.
Q. And we also touched on the decline in price of the solar project, but I just wanted to clarify the time period.
You would agree that the price of solar projects has declined in a meaningful manner over the last several years; correct?
A. Yes.
Q. In your economic analyses, you did not evaluate whether a combination of solar plus battery projects and demand side measures, like distributed resources, would be a lower cost option as compared to gas generators, did you?
A. We did not. I mean, my view, instead of a demand resource, could accompany any other resource, and so if it approves the economic of the solar battery, it might also improve the economics of the CT or CC, instead of Southern Company just pursuing the cost effective demand side opportunities to benefit whatever portfolio is certified by the commission.
Q. Sir, you're familiar with the term "value of solar"; correct?

A. I am, yes.
Q. And that term basically refers to the full gamut of the value stream that a solar facility might provide to the grid; correct?
A. That's the general use of that term, as I understand it.
Q. And some of those value streams could include avoided energy costs, deferred capacity investment, avoided transmission investment, and distribution line loss avoidant; correct?
A. Those are common components that are considered in that analysis.
Q. And you're generally familiar with the fact that the Georgia Public Service Commission has approved a renewable cost benefit framework for use by your affiliate, Georgia Power; correct?
A. I am familiar with that, yes.
MS. HOWARD: May I approach, Your Honor?
THE COURT: You may.
And while you're approaching, Mr. Johnston, I assume you want to move for the admission of your Exhibit 4?

MR. JOHNSTON: Thank you, Your Honor. Yes, please.

THE COURT: Okay. Any objections?

MR. McCRARY: Well, one thing, Your Honor. I think it may perhaps might be the errata version of that exhibit. I'm not totally certain, but I have a -- I think it is not. That was one of the replaced or the errata versions in Mr. Kelley's testimony.

MR. JOHNSTON: Was there an errata for the -- sorry.

MR. McCRARY: I'm sorry. I thought you were talking about the Figure 3F1. We not offering that?

MR. JOHNSTON: No.

THE COURT: No.

MR. McCRARY: Never mind. Sorry.

THE COURT: Just the work paper.

MR. McCRARY: Sorry.

THE COURT: No objection?

MR. McCRARY: No, we're fine with that. No objection to that one. I'm sorry.

THE COURT: It's admitted.

I'm sorry. Go ahead, Ms. Howard.

MS. HOWARD: I would like to mark what was previously marked as Exhibit 4 to Mr. Looney's deposition.

THE COURT: Okay.

BY MS. HOWARD:

Q. Sir, does that appear to be a copy of the framework adopted by Georgia Power?

A. Yeah. I think we reviewed this in the deposition, so if it's the same document, I believe it was a version of that document.

THE COURT: That will be marked for purposes of this proceeding as Alabama Solar Industry Associations Exhibit 4.

MS. HOWARD: Thank you, sir.

BY MS. HOWARD:

Q. And that framework in Georgia describes how to determine the different value components that solar offers; correct?

A. It does set forth a list of components that should be considered and some methodology by which you calculate the cost or benefits.

Q. And to your knowledge, Alabama Power has

not done a study or formed a framework like that, has it?

A. I think Mr. Kelley spoke to this some yesterday, that Alabama Power as part of Southern Company follows a very similar and consistent method for evaluating solar projects. I don't believe that they had a regulatory adoption of this framework.

Q. I understand Mr. Kelley provided some testimony about how the company goes about value -- putting a value to solar on a project-by-project basis.

But has Alabama Power company, to your knowledge, conducted any study of all of the benefits to the grid that are offered by solar in documenting that?

A. I think it's meaningful to clarify that this document was actually prepared by Southern Company Services, so really, it's Southern Company system. Georgia then adopted for a regulatory purpose. I don't think Alabama has had the occasion or need to make that adoption. The document, the methodologies are available to

Alabama Power to use at their discretion, and it generally would represent cost and benefits that apply to the Southern System as a whole.

Q. And if I may, sir, I don't think that answered my question.

My question was, has Alabama Power Company conducted any study of all of the benefits to the grid that are offered by the solar and documented that?

A. Southern Company Services, as an agent of Alabama Power, Georgia Power, and Mississippi Power, prepared this study, and so they have this study at their availability. And as I mentioned, and I think Mr. Kelley also mentioned, they follow the general practices laid out here in their evaluation of renewables. They haven't done different studies, nor would they need to.

Q. And in your deposition, do you recall testifying, "I'm not aware that Alabama Power themselves have done a study like that"?

A. I believe I would have said that.

Q. And to your knowledge, this commission has

not approved a framework like that, has it?
A. To my knowledge, this commission has not been asked to take a position on this framework.
Q. And for the solar project being proposed in this document, your department did not do the evaluation of the relative costs of the solar projects; correct?
A. Right. I think I previously testified that we didn't directly do that work, but that we did provide some oversight in review through our collaborative efforts.
Q. You did not perform any economic analysis of two-hour battery solar projects and how they would compare to other resources beyond the 400 megawatts of solar capacity proposed in this petition; correct?
A. I did not. That's correct.
Q. And you have testified in this case that your natural gas price modeling presents the, quote, "reasonably expected future impact to gas prices"; correct?
A. I think that's a fair characterization to our gas forecasts.

Q. But you don't know what the potential future impacts were considered in that modeling, do you?
A. I know that those models consider different supply and demand assumptions, and so the higher gas forecasts could reasonably assume to have maybe some more aggressive demands and less aggressive supply assumptions. Inversely, the lower gas, you know, would maybe have some less aggressive demand and more aggressive supply assumptions, and those things drive the forecast to have the deviation that we seek so that we can evaluate a range of gas prices in the future.
Q. And you're not completely aware of what drives the underlying gas forecast; correct?
A. Not completely. That information is prepared by Charles River and Associates. There's folks in our organization that review it a little more closely than I do.
Q. And you don't know whether that modeling considered the possibility of future limitations on fracking, do you?

A. I'm fairly certain that it does not include significant fracking limitations.
Q. And when I asked for the basis for that testimony that the modeling presents the reasonably expected future impact to gas prices, what you told us is that the basis you have for that testimony is essentially your confidence in the people that put together those forecasts; correct?
A. Yes. That is correct. And additionally, the fact that our forecasts are very consistent with other forecasts that are available in the gas market.
Q. And it's fair to say there have been periods of time where natural gas prices have been relatively volatile?
A. Yes, that's fair to say. I think it's also fair to say that during the midst of the period where they've been much less volatile and at a very low price.
Q. We referred earlier to the 2015 RGC proceeding.
Does it sound -- does it sound right to you

that the 2020 RFP would be the last RFP issued under the authority of that proceeding?

A. I think I previously answered a question that I don't recall the specifics of the duration of the order. So I don't know if the 2020 would be the last RFP without some renewal of the order or not.

Q. And your analysis that you've offered in this docket is not a stranded asset analysis, is it?

A. It's not specifically a stranded asset analysis. I believe the information to make an informed decision about stranded asset risks are easily ascertained through examination of the analysis that I performed.

Q. Well, isn't it true that you did not attempt to forecast future solar prices and then determine when it may be cheaper to build new solar plants than to operate these natural gas assets; correct?

A. I don't think the price of future solar is a considerable driver in the stranded risks -- as stranded risk components of a gas plant.

Q. And you did not attempt to do that?
A. Right. I don't think that will be an appropriate analysis to perform.
MS. HOWARD: Thank you, Mr. Looney. I have no other questions.
THE COURT: Mr. Wilson?
CROSS-EXAMINATION
BY MR. WILSON:
Q. My name is Zack Wilson. I'm with the attorney general's Office, and I have a couple of questions for you.
Are you aware of any discussions about further staggering, when these projects might come online potentially past 2025?
A. I'm aware of no such discussion.
Q. And some of the projects that are posed here, some of them would perform better during extreme winter events than others -- correct? -- in terms of their reliability or the amount of time they spend offline?
A. I think that's a hard connection to make. I think we believe these units will all reliably perform under extreme weather, so I don't

think -- I don't know how to draw a general conclusion.

Q. So that wouldn't be any type of factor in your analysis of deciding, you know, which one is best and most cost effective of how it would perform during, you know, what it's being requested for in the winter peak period?

A. Yeah. I mean, our analysis assumes that the units are available except for their base sort of forced outage rates. Anything beyond that is really covered in reserve margin study, and it's why we have reserves. So it's not a specific component of our analysis.

MR. WILSON: Okay. That's all I have.

THE COURT: Thank you, sir.

Staff?

MR. MASON: Yes, sir. Just a couple of questions.

MS. HOWARD: And, Your Honor, while we're in transition, I think I neglected to ask for the admission of the exhibits we marked.

THE COURT: Any objections?

MR. GROVER: No, sir.

THE COURT: The document is admitted. Thank you.

CROSS-EXAMINATION

BY MR. FREE:

Q. Good afternoon, Mr. Looney. I'm John Free with the commission staff. I hope you don't mind a few more questions on natural gas.

A. Certainly don't.

Q. You have covered quite a few this afternoon, but I got, real quick, just a couple, and it's your first exhibit from your original testimony.

You agree -- I agree with Mr. Johnson that the energy saving is an important aspect of that evaluation; is that correct?

A. Yes.

Q. And in that energy savings column, there's a save cost based on the four scenarios that you have run, which are low gas, zero carbon; low gas, clean carbon; or moderate gas, zero carbon; moderate gas, clean carbon, and the projected

natural gas were produced by Charles River, projected natural gas prices were produced by Charles River and Associates with the input from Alabama Power Company?

A. Correct.

Q. And it's my understanding from past analysis that the short term of the first three years generally come from a NIMEX market, and then Charles River does the long-term market.

Is that correct still?

A. That is still the process we follow.

Q. Okay. So now, we've talked about this just a few minutes ago. Over the last ten years or so, gas prices have decreased significantly.

Now, we're somewhere around $2, if not below $2 today; is that correct?

A. I think I saw the price today. It was $1.97 on the stock market.

Q. So how does Charles River and Associates forecast, long-term forecast, moving forward their low gas and high gas compared to where we've been and where you think it's going over this cycle that we're in right now?

A. That's a good question.
Q. Without confidential information.
A. Yeah. I think what we observed in our own work as well as the work across the industry is that gas forecasts year to year have decreased, which suggests in the forecasting world, there's a little bit of lag in catching up with the actual performances of the production.

So we're diligent in trying to make sure that we don't have a high lag. We recognize that long-term market futures may still be below some of our lower forecasts, but there's a limited liquidity in some of those futures, and it also might be considered to be the extreme. And I kind of mentioned earlier, we try not to make decisions based on the extremes, but instead make decisions that are formed on, you know, a reasonable spread.

It may be that Alabama Power decision to not pursue a high gas price in this is somewhat influenced by the fact that our projections have been decreasing year after year. John probably had been able to speak to that, or Mr. Kelley.

I'm sorry. But I would have shared that opinion if he expressed it.

So those are some elements about the way we're thinking about gas forecast, and particularly how we have tried to put together a robust portfolio here that balances benefits in what we think are two reasonable on gas forecasts.

Q. After your forecasts are complete, traditionally, you have tried to find other forecasts through available data or other data that you can purchase to balance your benchmark forecast from Charles River against those and see if you're within reason.

Do you still continue to do that?

A. We still do that. The AEO produces a handful of forecasts, and every year, I see a slide with our forecasts compared to those. And I think over the last several planning cycles, we've done a really good job of being within the spread of those other forecasts, which I think gives us increasing confidence that while no one gets this perfect, we're at least approaching it

consistent with the industry at large.
Q. Okay. And one other question is, in going through your evaluation in your first exhibit, if you just look at the first page, which is the low gas zero, and you lay out your lists of your top tier units, you got five of these that are solar systems with battery energy storage systems, and then you got three that are combined cycle units. And it just appears to me that they both have so many different characteristics.

You know, combined cycle units can do certain things well and are flexible 24/7. You flip the switch, you cut them on. And solar has it's benefits as well.

How do you equalize that or reconcile those differences in performance qualifications, features, whatever you want to call them? How do you reconcile that in your evaluation?
A. What we attempted to do was first make sure that the reliability contribution that we needed was met. And so for the solar batteries, we implemented that 85 percent incremental capacity

equivalent that was mentioned earlier. Because first and foremost, we're here to make sure that we can reliably serve our customers, particularly in winter events, as we've experienced even in the last several years. Secondly, we try to quantify every one of those differences that we can.

So a resource that brings a lot of energy benefit, we want to make sure that's appropriately accounted for. A resource that might not bring a lot of energy but has a lower capacity cost, you want to account for those. PPAs that everything is kind of rolled into a fixed payment and doesn't have OEM costs. You know, all of these differences, we try to set out as many different categories as possible; such as, category by category, you can kind of look at it, and say these were the valued costs for this resource resides, here's where the others reside.

So not only can you make an informed decision about just total project cost, but you're not blindly believing the ranking. You

can look and say have you struck the right balance, because again, it's been a long-term, well before I was employed, view of Southern Company that diversity is important to reliability. And so I think that, you know, our analysis provides that visibility into the resource evaluation.

Q. So the term dispatchability, reliability, flexibility, fast-ramp rate, backing off, regulations, all of these type of services, you think you can capture from a combined cycle unit when you're comparing them to the solar with battery unit?

A. Those things are captured in our -- when we -- when we calculate that ICE factor, the model that we use when we serve them, we spoke about it, it does attempt to capture which units provide regulated service, which units has fast-start capability, you know, which units can be dispatched 24 hours a day versus a battery that can only be -- serves two hours a day.

Q. Right.

A. And so all of those components to the

degree that the inputs are correct, that the model does account for those, and so the overall ICE factor should represent the capacity of the reliability contribution that those services provide, you know, by each resource.

I mean, a resource that provides all of that all of the time is sort of the golden standard; right? And then you -- you measure everything against a resource that provides all of that anytime you need it.

Q. So if I were to look at this and look at the lowest cost in the far right column, the unit that's ranked first, and said why didn't we do all units that way, can that unit replace like Central Alabama or replace Barry Unit 8 or replace --

A. Yeah. We're looking at the LG0, one of the solar -- the SS projects is the lowest cost. I addressed this in my rebuttal testimony. The question is could we have done all of that.

Q. Right.

A. And I think the -- I don't think. The answer is a resounding no; particularly, a solar

project with a two-hour battery cannot make up your entire portfolio, and I don't think it's a stretch to make that suggestion.

There is a line of questioning about how long your winter peak is yesterday. Again, I mentioned earlier, we don't think about things necessarily peak. We think about things in reliability constraints. We normally see the winter reliability constraint persist for five to six hours on a winter morning.

So a two-hour project can help at the tail end of that or some portion of that. But if that's all you have, then you're going to find some problems; right? So that's why we mentioned that, you know, several hundred megawatts is valuable, and beyond that, it's just not an adequate duration of battery.

So we need these dispatchable resources in our system to meet those sometimes long duration of events, or we would need very long battery durations, which just have not proven economic in our resource selections.

MR. FREE: Okay. Thank you very

much. I'm sorry for being repetitive. I know a lot of that stuff you had already mentioned before, but I just didn't quite understand it.

So thank you.

THE COURT: Redirect?

MR. McCRARY: Yes, sir. Your Honor, just a little bit.

REDIRECT EXAMINATION

BY MR. McCRARY:

Q. Mr. Looney, in response to some questions from Ms. Csank, you indicated that your group was consulted in connection with the structure of the capacity RFP.

Do you recall that?

A. Yes.

Q. What was the purpose of that consultation?

A. The purpose of our involvement was to help Alabama Power structure essentially the bid form, which is where the bidder would provide all of their performance and cost data, so that the data they received would be the meaningful data that we needed to evaluate each resource on its merits so that a fair evaluation in

comparison can be constructed.
Q. And she also asked you some questions about a so-called portfolio analysis.
Do you recall those questions?
A. I do.
Q. Now, how did you rank the various projects in your analysis?
A. As we described in our testimony, in my testimony, we evaluate each resource individually on its on merits and then rank them, and then the portfolio was just a selection of the top ranked units based on their individual value.
Q. In your judgment, would the portfolio analysis like that sheet was describing, would that have yielded a different portfolio of resources from the ones you derived in your opinion?
A. I don't foresee a situation where that would arise.
Q. Now, in response to some questions from Mr. Johnston, there was a lot of discussion about the incremental ICE factor determination

in the tranches.

Do you recall that?

A. Yes.

Q. So let me give you a sort of a man-on-the-street example and see if this is accurate in terms of what you were trying to describe.

If I had a basketball team that a had a free throw average of 95 percent, and I had a new player join the team, and now my team average for free throws is 80 percent, what would that suggest about the free throw shooting ability of my new player?

A. Right. It would automatically suggest that not only was your new player less than 95 percent, he was well less than 80 percent, because he brought down the whole team average.

Q. And in the same way as that, would the third tranche seem to suggest in terms of the value of that capacity or value of that third tranche from a capacity standpoint?

A. Yes. That's a very clever way of illustrating that dynamic.

Q. Incremental ICE factor aside, is it your understanding there were other reasons why the remaining 560 megawatts of solar battery projects were not selected?

A. Yes. The remaining projects had some local transmission issues that had costly solutions. So when we included the cost or Alabama Power included the cost in their analysis, those projects were found to not be economic relative to the units that we had already established in our ranking.

Q. Also, I believe it was determined that there had been some confusion in the exchange between you and Mr. Johnston regarding capacity value as opposed to capacity factor.

And y'all tried to straighten that out, did you not?

A. I believe we tried.

Q. All right. At least in the context of Barry 8, could you please discuss the difference between capacity equivalence and capacity factor for the Barry 8 unit?

A. Sure. The capacity factor, again, is how

much we expect the unit to run, and so we mentioned that we expect through our simulations that that unit will run somewhere around 80 percent of the time based on its economic discharge in the system.

Its capacity equivalence, because it's a fully dispatchable unit, it gets full capacity equivalence. It's megawatt for megawatt. So we don't normally speak in these terms, but I think it's fair to think about that as a 100 percent ICE factor.

Q. And finally, Mr. Looney, in response to some questions from Mrs. Howard, she asked you about the Georgia cost benefit framework document that's Alabama Solar Exhibit 4.

Do you recall that?

A. I do.

Q. Is it your testimony that the relevant cost and benefits streams discussed there are effectively captured in the analysis reflected in your ranking?

A. That is my testimony.

MR. McCRARY: No further questions,

Your Honor.

THE COURT: All right. Thank you, Mr. Looney. You're excused.

Mr. Looney's pre-filed testimony and his exhibits will be admitted into the record.

All right. That leaves you with Ms. Baker. You know how I am. I like to drive on through, but let me evaluate the amount of time you think Ms. Baker is going to take, and it's going to be driven on cross-examination, so...

MR. HILL: I have no questions.

THE COURT: No questions.

MS. CSANK: Your Honor, Sierra Club will have limited questions, and it will help if we were to start with her in the morning. They could even be more limited, because I can streamline based on what we heard today.

MR. GROVER: Put that in writing.

THE COURT: My experience, it unusually doesn't streamline overnight.

MR. HILL: My expert cancelled his plane for tonight and is flying out tomorrow

afternoon. It would be great if he could make that flight.

MS. CSANK: In comparison to the other witnesses, I have far fewer questions for Ms. Baker.

THE COURT: What about the other parties?

MR. JOHNSTON: Energy Alabama/GASP will have questions.

THE COURT: How many? Just an estimate compared to the other witnesses.

MR. JOHNSTON: Probably not as much as Mr. Looney.

THE COURT: It's not going to be nine o'clock, but let's go.

CHRISTINE BAKER,

the witness, having been sworn or affirmed to speak the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MR. GROVER:

Q. Can you state your name for the record?

A. Christine Baker.

Q. Ms. Baker, by whom are you employed?
A. Alabama Power Company.
Q. And what is your business address?
A. 600 North 18th Street, Birmingham, Alabama.
Q. Did you cause direct testimony to be filed in this proceeding?
A. I did.
Q. And do you have or have you submitted any corrections to that testimony?
A. I have not.
Q. Okay. So if I asked you the questions that are set forth in your direct testimony, would your answers be the same?
A. They would.
Q. All right. Did you also cause rebuttal testimony to be filed in this proceeding?
A. I did.
Q. And likewise, did you have any changes or modifications to that testimony?
A. I did not.
Q. All right. And similarly, if I asked you those questions that are set forth in your rebuttal testimony, would your answers be the

same?
A. They would.
MR. GROVER: All right. Judge, we would move to have Ms. Baker's testimony submitted into the record.
THE COURT: Her testimony and exhibits will be admitted subject to cross-examination.
BY MR. GROVER:
Q. And, Ms. Baker, do you have an opening statement?
A. I do.
Q. Please.
A. Good afternoon. Under the proposed resource portfolio, the generating resources will be brought in service over the course of the next four years with all expected to be serving customers by January of 2024. As each resource begins to provide electric service to our customers, there will be associated costs and savings that will become part of our cost of service, and therefore, incorporated into our rate.

As I've describe in my testimony, existing rate mechanisms will operate under the oversight of this commission. In the year 2024, the net pressure of the supply side resources to retail rate is expected to be approximately 2 percent. For a typical residential customer, using 1,000 kilowatt hours per month, the net effect would add about $4 to their monthly bill. While any resulting increase in rates is certainly considered impactful to our customers, this portfolio is the most cost effective way to ensure reliability for our customers during peak times when they count on us to be available to serve them.

I would also point out that effective this year, our retail rates were lowered by 3 percent, which resulted in a $4.50 per month savings to the same typical residential customer. I hope this savings will help to dampen the future impact to our customers associated with this generation portfolio which, is necessary to continue to reliably meet their electric service needs. I look forward to

answering any questions you have.

Q. Thank you, Ms. Baker.

MR. GROVER: Your Honor, the witness is available for cross-examination.

THE COURT: All right. And I believe Mr. Clark is not in attendance at the moment.

Mr. Hill, you have no questions?

Energy Fairness.org?

MR. GRIFFEN: No questions.

THE COURT: American Senior Alliance?

MR. HOOPER: No questions for Ms. Baker.

THE COURT: Alabama Coal Association?

MR. CAGLE: No, sir, Your Honor.

THE COURT: All right. Ms. Csank?

MS. CSANK: Yes, Your Honor. If I may just ask to follow Energy Alabama and GASP.

THE COURT: Sure.

///

CROSS-EXAMINATION

BY MR. JOHNSTON:

Q. Hello, Ms. Baker.

A. Good afternoon. Good evening.

Q. Ms. Baker, my name is Keith Johnston. I'm representing Energy Alabama and GASP in this matter.

A. Yes.

Q. I think we met briefly before your deposition?

A. We did.

Q. You're the director of regulatory pricing and cost of services for Alabama Power; correct?

A. That is correct.

Q. And you spent your whole career, at least since college, at Alabama Power; is that correct?

A. That is correct.

Q. And you've worked for Alabama Power for approximately 26 years; is that correct?

A. That is correct.

Q. And to get into a little bit of your testimony, we don't know the true cost of this

petition, but we do know that it's over $1.1 billion; is that correct?

A. I believe we do know the total cost. I believe it's been presented by Mr. Looney.

Q. Is that total cost confidential?

A. Yes, I do believe the total cost is confidential.

Q. But it has been stated in public that it's at least $1.1 billion; correct?

A. The investment has been stated in the public as $1.1 billion.

Q. How are these costs of this petition by Alabama Power recovered?

A. Cost to serve customers are covered through the rates to provide that service.

Q. And so these -- what are the mechanisms to recover through those rates, the rates that you have in place to recover these costs?

A. You're asking what are the names of the rates that are in place?

Q. Correct. For example, Barry Unit 8 will be recovered through rate CNP Part A; correct?

A. The adjustment will occur pursuant to CNP

Part A.
Q. And the adjustment will be for that cost of Barry Unit 8; correct?
A. That's correct.
Q. And so take me through each of the projects.
How are they going to be recovered through your rate recovery?
A. Okay. I think that's all laid out in my testimony, so I may pull that out in front of me to make sure I follow in order.
MR. GROVER: Your Honor, I mean, I'll be happy to hear Mr. Johnston, but I do actually believe that question is precisely what she just said laid out entirely in her testimony. So just for purposes of efficiency, I'll throw that out there.
THE COURT: If she can just give us a summary of her testimony, I think that will be a good response to his question.
THE WITNESS: Okay.
THE COURT: Just walk us through the basics.

THE WITNESS: So we will begin with Barry Unit 8, as you suggested. Barry Unit 8, the adjustment would occur for the non-fuel and non-environmental costs under the PNV planning factor, the costs that are associated with environment compliance with coming in through the CNP compliance factor, and the fuel costs will come in through the EPR factor.

Q. And so is that CNP Part C for the --

A. That is the compliance part.

Q. And that was Barry Unit 8?

A. That was all for Barry Unit 8 those three will operate.

Q. And then what about the PPAs?

A. So as we move, I think the next one I covered was Central Alabama, which would be very similar as that's an acquisition, just like a purchase, so it would act just like this Barry Unit 8. The purchase power agreement has a little difference between the agreement. The Hog Bayou agreement has a capacity cost that's negotiated out in the contract, so that capacity

cost would come in through the CNP plan factor, and the energy-related cost would come in through ECR.

For the solar battery storage projects, they have one payment. So we have suggested that the commission direct us to take 38 percent of that payment, which would be the portion of the payment that would equate to what the cost of the battery was, the payments to the battery, which provides capacity benefit, and put that through the CNP plan factor with the remainder of the payment going as energy to ECR factor. I believe that covers all of them.

Q. In light of these recovery mechanisms, is it fair to stay the ratepayers bear the risk associated with this petition?

A. Ratepayers will receive the benefit, and to the extent there are any risks, I don't mean -- there are born in that.

Q. They're subject to those risks?

A. The are subject to the rewards and the risks associate with it, I would say.

Q. Now, I want to introduce Exhibit 2 to your

deposition. This was an Excel spreadsheet with a couple of tabs.

MR. JOHNSTON: May I approach, Your Honor?

THE COURT: You may.

This will be Energy Alabama and GASP 5.

MR. JOHNSTON: 5 and 6, Your Honor. There's another tab to that spreadsheet.

THE COURT: 5 and 6.

MR. JOHNSTON: We've discussed this as well.

MR. GROVER: Yes, absolutely.

BY MR. JOHNSTON:

Q. Are you familiar with those worksheets?

A. I am familiar with the worksheets.

Q. Can you --

A. I want to point out right off the bat that the Exhibit 1 to my rebuttal is the updated version of these spreadsheets, so I don't know. Do we want to work from the first version or the updated version.

Q. Yeah. And what are you specifically

referring to?
A. When I did the initial impact analysis in preparation for my direct testimony, we used the costs that were available at that point in time. They were not all finalized. So as we got ready to make the filing, the numbers were finalized, but the difference was not significant enough to actually change the impact that was stated in my direct testimony, so we did not update the numbers at that time.
But later on, we decided to go ahead and update those numbers so that they're consistent with what was provided by the other witnesses. So the $4 impact is still the impact, but the numbers slightly change.
Q. And first, tell me which numbers change and how those numbers changed, at least the final, the final number. You don't have to go through the whole spreadsheet.
A. All right. So the retail revenue requirements went up by $3 million.
Q. May I stop you right there?
A. Yes.

Q. Explain which document you're looking at right now.
A. So I am looking at the first page that you gave me.
THE COURT: That's 5.
BY MS. JOHNSTON:
Q. And that's -- the title of that document is "Estimated Supply Side Resource Impacts"; is that correct?
A. That is correct.
Q. Okay. Proceed, please.
A. The retail revenue requirement went up by $3 million, the energy benefit in both scenarios decreased by about $2 million, so the net pressure was different by about $5 million. That difference is what drove a slight difference in the percentages percent impact and the dollar bill impacts to residential.
Q. So your net pressure which is --
A. Increased.
Q. Increased?
A. It did.
Q. Which is your retail revenue requirement,

plus your energy cost impact, and that increased your percent impact on that spreadsheet; is that correct?

A. Yes, by just a very, very small amount. So the 2 percent is still valid in both scenarios.

Q. Okay. But you created these spreadsheets; is that correct?

A. My department did under my direction.

Q. And you just went through the estimated supply side resource impact at the top line of that spreadsheet.

The other spreadsheet is the typical FD residential bill calculations for 1,000 kilowatt hours; is that correct?

A. That is correct.

Q. Okay. And FD residential bill refers to what?

A. Rate FD is the standard rate by which we serve our residential customers.

Q. And back to your changes, as far as the estimated supply side resource impacts spreadsheet for your 2019 typical bill, which is the bottom of that spreadsheet, what did it

change those numbers to?
A. The original numbers were $3.60 to $4.37, and the -- I'm sorry. Those were the final numbers.
Q. Right. We're looking at the 2019 typical bill.
Did that change?
A. The -- I'm sorry. The typical bill itself, 147.60, did not change.
Q. Okay.
A. I'm sorry.
Q. Okay. And then tell me what changed in that.
A. So the base by which we were comparing it to stays the same, but the new bill, which would represent the bill with the increase in it, changed slightly. So the part that we're really looking at is the differentials.
Q. Right.
A. The differential originally started at 3.48 and went up to 4.24. Now it goes from $3.60 to $4.37.
Q. Okay.

A. So I think the average there is about 3.80, and I quoted $4.

Q. Okay. Thank you for your explanation.

Are these documents the same that you reviewed during your deposition on February the 14th, 2020?

A. They are.

Q. So looking back at the typical FD residential bill calculation for 1,000 kilowatts, you and your team created this worksheet.

You had a hand in creating this worksheet; is that correct?

A. That's correct.

Q. So these calculations on the typical bill worksheet led to your final calculation in your estimated supply side resource impacts worksheet; is that correct?

A. That's correct.

Q. Okay. So in your typical residential bill, you went through an analysis of what your typical residential bill is and included multiple steps along the way.

Can you just sort of describe that generally, please?
A. Yes. It's an actual process by which a bill would be calculated using a customer's usage and the approved rate FD. It starts with the base charge, which would be applied each month. Then you have your kilowatt hours that will fall into different buckets. We have the first and second step for our winter months, and then we a have a first and second step for our summer months, and then we have a charge for NDR, a charge for ETR, utility license tax that's applied, and a gross receipt tax that gets applied.
Q. Thank you. And then you apply those across all the months of the year, and you ultimately end up with your typical 2019 bill; is that correct?
A. That's correct.
Q. And then in your second set of analysis on that same worksheet, it's entitled, "NGO Scenario"?
A. That's correct.

Q. And that's moderate gas with zero carbon pricing?
A. That's correct.
Q. And your typical -- your typical or your bill in that scenario is what?
A. 151.84.
Q. And let me back up for one second.
On your current 2019 pricing, what is your -- what is your bill there?
A. 147.60.
Q. Okay. And then your third scenario is labeled "LG Zero Scenario."
Is that low gas zero carbon pricing scenario?
A. That is correct.
Q. Okay. And then your final bill in that scenario is what?
A. 151.08. I feel like I need to repeat that this is the first version that we're looking at.
Q. Okay. So this is not the corrected version?
A. It's not the updated version. And I have those numbers in front me as part of my exhibit.

Q. Okay. We'll handle that.
A. Just to be sure it's on the record that these were not the final numbers.
Q. Okay. So 147.60, that is the typical 2019 residential bill?
A. That was the typical bill using the pricing that was in effect for 2019. That pricing has changed in 2020 as we've had a rate reduction this year.
Q. And that's based on 1,000 kilowatt hours of usage?
A. That is based on assuming the customer used 1,000 kilowatt hours each month of the year.
Q. What do Alabama Power customers actually average per month?
A. The average usage of customers per month averages closer to 1,200, but we -- when we're doing rate impact analysis, to use an industry standard, which is to quote 1,000 kilowatt hours, it's comparable between utilities. You can compare your increases.
We also find that if we look at the usage of our customers, 1,000 kilowatt hours is closer

to the median of our customers, meaning about the same number of customers fall below that 1,000 kilowatt hours as the number of customers that fall above that. So the average usage is skewed a little bit.

Q. So it would be the real Alabama Power typical customer is averaging 1,200 kilowatt hours per month; is that correct?

A. If you want to talk about the average usage. I stated typical customers, because I find that the median is representative of the typical.

Q. So the real average usage by an Alabama customer is roughly 17 percent higher or 200 megawatts higher than what you used for the typical resident bill?

A. It would be the kilowatt hours.

Q. Kilowatt hours; correct.

A. Much, much smaller.

Q. A kilowatt hour.

So the revenue impact estimates are not based on an average usage of a residential power customer; is that correct?

A. It is representative of a typical customer using 1,000 kilowatt hours. So if you know what your usage is, it's fairly -- I would say it's pretty linear. So you can take your usage and you can calculate what you believe your impact will be.

Q. Regardless of that, if you use the average, it's going to raise these numbers that you found in a typical residential bill; correct?

A. I think it's about 40 to 50 cents difference, but yes.

Q. So you have stated that the net pressure on -- through the various mechanisms would equate to approximately $4 per month; correct?

A. That's correct.

Q. And we've established that the true average -- if you use the true average bill, it would actually raise that -- it would increase that pressure; correct?

A. That pressure would be slightly higher, but I would point that when you look at the average on my sheet, I actually rounded up for the $4. So when you account for those, that difference,

you're still going to be close to $4. It might be slightly higher than $4.
Q. So if your $4 is going to be over, that's approximately $50 a year at least?
A. I'm sorry?
Q. An average customer, it's going to be about $50 a year at least?
A. That's fair.
Q. So it could be more?
A. It would be more if you use more than 1,000 kilowatt hours a month.
Q. If you use 1,200 kilowatt hours.
A. It's going to be slightly more, yes.
Q. And rate FD customers are the majority of all your combined customers; is that correct?
A. Yeah, they are by far the majority.
Q. That's 1.2 million of your customers; is that correct?
A. That is in the ballpark, yes.
Q. So sales to FD customers are what percent of your sales?
A. Percentage of sales of kilowatt hours?
Q. Correct.

A. I do not know that figure as we sit here today. It's not coming to me.
Q. So you've shown what the typical impact is for a family dwelling rate, but this is also going to result in increases for businesses and large industries; is that correct?
A. That is correct.
Q. And have you done that analysis?
A. I provided a percent impact for all other retail customers of 2 percent. That would allow those customers to take the particular bill amount that they're familiar with and apply 2 percent to it to get an estimated impact.
Q. Are there any customers that this petition will not affect?
A. There are no retail customers that I can think of that would not be affected, no.
Q. And this is all being driven by this alleged winter need?
A. It is being driven by our analysis that shows a winter need.
Q. Did your group conduct any bill impact analysis for low income customers?

A. To the extent that the low income customers look similar to the typical customer, I would suggest that the $4 is an impact to low income customers as well.

Q. Do you know what energy burden means?

A. I have heard you speak of it in deposition. I was not familiar with it before that.

Q. Would you accept the definition of energy burden as a percentage of general income that's spent on utilities per month by households?

A. Yes, I will accept that definition.

Q. Do you know what the average energy burden of residents in Alabama is?

A. I do not.

MR. JOHNSTON: Your Honor, may I approach?

THE COURT: Sure.

MR. JOHNSTON: It will be two separate documents.

BY MS. JOHNSTON:

Q. Ms. Baker, have you seen these documents before?

A. I don't know that I've seen these specific

documents, but I've seen similar information.
Q. So do you know what the information in here is concerning?
A. I have not looked at the second document, but I do understand the first document.
Q. So take a minute to look at that document and tell me -- both documents, and tell me when you've had a chance to review it.
THE COURT: While she's do doing that, the first document will be marked as Energy Alabama/GASP 7, and the second will be marked as Energy Alabama/GASP 8.
MR. GROVER: Judge, can we put an asterisk on that and come back to it. I think per Mr. Johnston's comment, we might try to straighten that out and enter the correct exhibit into the record, unless you intended to not have the correct exhibit in the record.
MR. JOHNSTON: No. That's fine.
MR. GROVER: Okay. We can work on that, Christy and I. I think she understands what I'm thinking.
MR. JOHNSTON: Thank you.

BY MR. JOHNSTON:
Q. And I want to draw your attention to the document entitled "Electricity Costs, Rates, Bills, and Burdens."
A. Yes.
Q. And on the second page of that two-page document, could you describe who created this document?
A. Based on the logos at the bottom, I would say it's a U.S. Department of Energy and Berkeley Lab.
Q. And what's the date on that document?
A. October of 2017.
Q. And I want to draw your attention to the first paragraph, third bullet point of the first page of that document, where it talks about electricity burden.
A. Yes.
Q. And could you read the definition of electricity burden?
A. "Electricity burden is a measure of affordability, and it's the percent of household income spent on electricity bills."

Q. And then read, please, the fourth paragraph down where it says "The math to the right shows these differences, for example." Read the first full bullet point.
A. "Letter rate but high bill and burden, Alabama."
Q. And so does this document show that Alabama indeed has a high energy burden for its customers?
A. As stated, it shows that Alabama has low rates, but because of high usage, they have higher bills, and as they have defined it, higher burden.
Q. And let me draw your attention to the second document that I handed you just now.
A. All right.
Q. And can I get you to read the title of that document?
A. "Low Income Household Energy Burden Varies Among States. Efficiency Can Help in All of Them."
Q. Okay. And turning to the back of that document again, page 2, can you tell me who

produced that document and the date?
A. Again, the U.S. Department of Energy, December of 2018.
Q. And I want to draw your attention to one part of this document, which is the second full paragraph.
And could you just read the first sentence of that paragraph?
A. The second full paragraph, where the one that starts in the middle of the same column?
Q. That's correct. It starts "In five states."
A. Can't tell.
"In the five states with the highest low income energy burden, Mississippi, South Carolina, Alabama, Georgia, and Arkansas, low income households use 36 percent more electricity than the low income national average."
Q. Thank you. So do you have a good idea of what energy burden is at this point?
A. I think that you're talking about an energy burden, but the tables that we're looking at are

about electricity burden. And I would suggest that your terminology would be more appropriate, which is your energy burden.

I believe that we covered this topic in Ms. Burk's testimony, that I'm familiar with it, and our customers, as stated here, use more electricity than customers in other areas, and that is because they use that electricity to replace other fuel sources.

So where you might have a higher electricity bill, you may not have a gas bill. So if you were to look at the total energy of a customer, you would find a different answer. Because if I'm only paying an electric bill and not paying both, then only looking at one side of the equation doesn't tell you what my energy burden is. It only tells you what my electricity bill is.

Q. Do you draw a distinction between bills and rates?

A. Yes, I draw a distinction between bills and rates.

Q. Can you tell what that distinction is?

A. The rate is the rate set forth for each unit that we sell. Your bill is determined by the amount of units that you consume from us.
Q. And so according to this, in the document that you just reviewed, Alabama Power has high energy bills; is that correct?
A. I believe it says high electricity bill. I don't know about total energy bills.
Q. In your analysis, there was no analysis about how this rate impact might affect low income citizens; is that correct?
A. I think, as I answered before, I did a typical residential bill calculation to look at the impact, and so I would assume that that is a combination of low income customers and high income customers, but I do not ask my customers what their income level is before providing electric service to them.
Q. You reviewed impacts on customer bills through 2024?
A. I looked at the impact in the year 2024, because that is the first year that you will see the full annual cost of the portfolio.

Q. Did you look beyond 2024?
A. I did not look beyond 2024, but what I know about the portfolio is that over time, the revenue requirement declines. So if I look at the impact in the first year, that should be an impact where from that point forward, the pressure would decline.
Q. So is it your testimony that there will be decreasing pressure on a rate after the year 2024?
A. There will be decreasing pressure from the non-fuel cost side. I can confidentially say that.
Q. Have you done a full life cycle analysis of all of the bills of what these bills would be?
A. I have not looked at the full life cycle of the bills, no.
Q. Turning back to the estimated supply side resources tab, and now I'm going to go from the corrected version, if you do have that in front of you.
A. I do.
Q. I can you get a copy here.

A. All right. Okay.
Q. So according to your estimated supply side resource impact tabs, the family -- the FD allocation, as you labeled it, or family dwelling allocation, the supply side generation is going to cost residential customers approximately $95 million more per year in 2024; is that correct?
A. The cost side of this equation is additional $95 million, but I do not have the savings side for just the residential customers on FD. It was incorporated in that typical bill calculation.
Q. So what happens if during the 40-year time frame of this proposed portfolio, as we have seen with Barry Unit 8, if a large customer demand, more investment, and solar and wind, what happens to their share of the cost from this proposal?
A. I'm not sure I understand the question.
Q. So if industrial or large customers end up demanding more renewable --
A. Yeah.

Q. -- what happens to the FD allocation of this supply side tab?

Would it have a tendency to go up?

A. I don't have -- I'm not making a connection between the choice of adding renewables for larger customers. If they were demanding that, we would add that, and it would become a part of the generation that serves all customers, so...

Q. Would all customers be on the hook for this petition still?

A. All customers who enjoy the benefit of the capacity made available would share in the cost of that capacity.

Q. Under your moderate gas zero carbon pricing scenario, I think you have the savings as $76; is that correct?

A. I think if you're looking at the older one, that may be it. But on the newer one, the low gas is 74 million.

Q. Okay. And what exactly are these savings? Can you describe those savings to me?

A. Yes. I think other witnesses have talked about it up to this point, but you are planning

to provide service to customers, and you're planning to use the fuel -- burden fuel in our existing unit. But if you move forward with this portfolio and these units come online to provide the capacity that we need, they will also be there to generate in place of other units.

So if the fuel is a fuel savings, because you use less fuel to produce more kilowatt hours out of these more efficient units, then you don't have to spend the dollars on the fuel for the less efficient units.

Q. How is this --

A. It's the net of the cost and the savings, and it nets to a savings.

Q. How is this change if you added more energy efficiency and demand side management to Alabama Power's portfolio?

A. How would the energy savings change?

Q. Would that put more of a downward pressure on rates?

A. I'm sorry. The first was how would the energy savings change, that question?

Q. Yeah.
A. I believe it would depend on the fuel forecast going forward.
Q. But if you're adding resources that don't use fuel?
A. Then they're also displacing other generation, so I would say that the savings may decrease.
Q. So you did not perform a high gas scenario; is that correct?
A. I did not perform any gas scenario.
Q. And you weren't given any of the information for a high gas scenario; is that correct?
A. I was not provided any information for anything greater than the moderate gas, which I believe Mr. Looney indicated was in a high range.
Q. If there are gas increases over time, of course, to your moderate gas scenario and low gas scenario, would that change your analysis of the -- of the bill impacts?
A. There are two scenarios presented, a low

gas scenario and the moderate gas scenario. And so to the extent that what we actually see doesn't fall between those, there would be a difference between sort of average that I stated. But I think, for reference sake, you can look at what the difference is between the low gas and the moderate gas to kind of get a flavor for how wide the range of variability could be.

So between these two scenarios, it's about -- a little under 80 cents is the range, 80 cents a month.

Q. What if you add carbon on top of that scenario? A carbon price?

A. I do not have an evaluation of that, because there was no evaluation that showed a carbon price in 2024, which from a non-fuel cost side was my highest cost year.

Q. And Brandon Looney's group at Southern Company Services did an analysis with carbon pricing; is that correct?

A. They did.

Q. And so why was the choice here not to do

any sort of analysis of carbon pricing?
A. As I just stated, the carbon pricing started later than the year 2024, but because 2024 is when I have my highest revenue requirements, I went with an analysis that says this is the way rates will be impacted in 2024.
Q. For the demand side management programs, they lower the demand or the need for electricity on the system; is that correct?
A. They can do both. They can lower the need for demand, and they can lower the energy consumption.
Q. And almost all the company -- the company's DSM programs are interruptible supply contracts with very large customers; is that correct?
A. The largest portion of the demand side management options that provide part of our resources are interruptible contracts.
Q. And how often are these interruptible customers called upon?
A. As frequently as required when we're in an at-risk system. I recall that we've had multiple people talk about the 2014 polar

vortex, and I know that customers were called in that situation, opposed to not have a firm low setting event.

Q. How many active DSM programs does the company currently have in operation?

A. I do not know the number of the DSM programs.

Q. Active DSM programs?

A. I do not know of the number of active or passive.

Q. I think you pointed out one that may be frozen and one that was a pilot program in the works -- is that correct? -- during your deposition?

A. Those are two of the DSM programs that also have a rate associated with them, yes.

Q. And how many participants are there in these programs?

A. I asked that question after the deposition, because I did not know, and it's in the range, I think, between 6,000 and 7,000 customers, the majority of which were on DLC, not DPE.

Q. And those are the customers that are part

of the sensible switch in critical peak pricing; is that correct?

A. That's correct. The majority of them are sensible switch.

Q. Alabama Power currently uses declining winter block rates; is that correct?

A. Our standard at the rate does have a slight decline in the winner and a slight incline in the summer.

Q. So that means as customers uses more energy, the rates go down; is that correct?

A. That is correct.

Q. So specifically, if customers are using over 750 kilowatt hours per month, the next block of energy is cheaper; is that correct?

A. After you pass 750 kilowatt hours in the wintertime, the rate goes down by $.01.

Q. Does it make sense for utilities that's concerned about winter peaking to use the claim winter block rates?

A. As the winter planning and winter peaking is confirmed and affirmed out of this proceeding and the company -- if the company should move

forward with procuring generation to meet a winter peak, then I would fully expect that as pricing, we would move forward with a transition of our rates as well, and that would include a transition to this rate.

Q. Did you hear Mr. Kelley's testimony yesterday about winter decline and block rates?

A. I don't recall what Mr. Kelley said about winter decline and block rate.

Q. But your testimony today is that if this petition is approved by the PSC, Alabama Power will get rid of winter decline and block rates; is that correct?

A. I fully expect that as we transition all of our rates, one of the things that will change is a winter declining block. That's correct.

Q. And I wanted to -- let me revisit this one question.

You said on the interruptible call -- did you know how many had been made in 2018? How many of those interruptible supply customers have been called upon in 2018?

A. I do not know.

Q. And how many customers do you have?
A. How many total customers do we have?
Q. On an interruptible.
A. Oh, on an interruptible. I do not know the answer to that either. I'm not responsible for the interruptibles.
Q. Well, subject to check, would it be surprising to hear that you called 60 out of more than 1,600 during 2018?
A. I don't know what that's referencing. I don't know how many we have, and as I understand the program, we don't call some customers. If we make a call, we call all customers.
Q. When the company makes a capital investment, it gets a return from that capital investment; is that correct?
A. The company does recover the cost of capital associated with any investment made to provide service to our customers.
Q. And then it gets some sort of interest upon that capital; is that correct?
A. There are various components of the capital. So the total cost of capital would be

recovered from customers.
Q. And that rate of return is called a return on equity; is that correct?
A. That is a name for it, yes.
Q. And that is recovered through rate RSC; is that correct?
A. Our cost of capital is recovered through more than one rate, but it is recovered under RSC as well.
Q. And do you know what the current ROE of Alabama Power is?
A. I do not have the current number. We are regulated on a waited retail return on equity, so the ROE number is not a number I keep track of.
Q. Subject to check, would it surprise you that the ROE is approximately 13 percent per the company?
A. I don't know what time frame you would be referring to. As I recall, our costs are declining as our equity is increasing. So I don't know what time period you're referring to.
Q. Over the last two years.

A. I don't know.
Q. Would a large self-bill project be more profitable than shorter term PPA for the company?
A. I'm trying to follow the question. The PPAs don't involve any investment, so there is no cost of capital to recover.
Q. Right. And so there is cost of capital to recover when you build a large unit, like Barry Unit 8; is that correct?
A. If you invest capital to provide a benefit to customers, there is a cost of that capital that is recoverable, yes.
Q. And then you get a return on the equity portion of that capital; is that correct?
A. That is correct.
Q. So therefore, wouldn't it be more beneficial, as far as an ROE standpoint is concerned, for the company to endeavor in a large self-bill project, rather than a short-term PPA?
A. I don't agree that it would be more beneficial, because our company is a long-term

company, and if we make short-term decisions that aren't in the best interest of our customers, we won't be profitable over the long haul.

Q. Give me a minute, please.

A. Okay.

Q. Are you familiar with Mr. Kelley's -- strike that.

Do you remember Mr. Kelley's testimony regarding the plans for a residential thermostat control program.

A. I recall that he was testifying, yes.

Q. Can you provide a few more details about that program?

A. I wouldn't know any details about that program.

Q. You don't know how many customers that program covers?

A. I do not.

Q. What kind of load reduction it might achieve?

A. I do not.

Q. How much that type of program might cost to

deploy?
A. I do not.
Q. Will this program be part of the 200 megawatt proposal for demand site management?
A. It is my understanding that it's currently being piloted to determine if it is effective and should be used as a part of the 200 megawatt.
Q. To come up with your typical bill analysis, and as we've discussed, you were given data from several different groups within Alabama Power, and I assume Southern Company Services; is that correct?
A. That is correct.
Q. And you were running this data through a spreadsheet to come up with your final numbers?
A. That's correct.
Q. And so who in your shop decides on the analysis, the ultimate scope of analysis, for instance, field impacts, low income impacts, who makes that decision?
A. I would say, ultimately, it would be my decision.

Q. Ultimately, was it your decision to use the typical customer FD 1,000 kilowatts -- 1,000 kilowatts per hour per month, instead of the average Alabama customer usage?

A. Yes. It was consistent with what we have done for as long as I can remember doing bill impacts.

Q. But it wasn't your decision that you wouldn't run at a high gas scenario; is that correct?

A. It was not my decision.

Q. It wasn't your decision that you wouldn't review carbon purchasing; is that correct?

A. That was not my decision.

MR. JOHNSTON: I think that's all I have, Your Honor.

THE COURT: Let's straighten out the exhibit. I think you wanted to have some conversation about that.

MR. GROVER: It's my understanding, at the risk of presuming, that you intended to use the exhibit that was introduced in her deposition as part of the work paper produced

in response to the notice?

MR. JOHNSTON: That's correct.

MR. GROVER: Then that would be the one that actually has the exhibit sticker on it that says 2 Baker, which I assume you have a copy of that?

MR. JOHNSTON: Yes, I do have that. Yes.

MR. GROVER: Okay. I think that and then the worksheet that went along with it would be the ones that have the updated information that Ms. Baker testified to at the outset.

Just so the record is clear, she made the distinction the exhibit corresponds with it.

MR. JOHNSTON: Okay. I appreciate that. So we will get the judge copies of those.

THE COURT: All right. Well, here's what I propose, because she gave testimony on these documents that were marked.

MR. JOHNSTON: Right.

THE COURT: So what I would like to do is do a 5A and 6A, with the A being the revised version on each of those.

MR. GROVER: That's perfect, Your Honor.

THE COURT: All right. Let's do that.

MR. JOHNSTON: Thank you. And I will move for the other exhibits into the record.

THE COURT: If you got copies of those, I would like to go ahead and mark them.

We're going to mark as 5A, which is the corrected version of that particular exhibit, and then 6A, which is the corrected version of 6.

MR. JOHNSTON: Those are the new versions.

THE COURT: Okay.

MR. JOHNSTON: Thank you.

THE COURT: Thank you.

All right. Ms. Csank, are you ready?

MR. CSANK: Just a moment, Your Honor.

THE COURT: Any objection to the admission of all those exhibits that would be 5, 5A, 6, 6A, 7, and 8?

MR. GROVER: No, Your Honor.

THE COURT: They are admitted.

CROSS-EXAMINATION

BY MS. CSANK:

Q. Good afternoon, Ms. Baker.

A. Good evening.

Q. We haven't met. My name is Diana Csank. I'm counsel for Sierra Club.

A. Nice to meet you, Diana.

Q. Are you still comfortable?

A. I am.

Q. Do you need anymore water?

A. No, I'm good.

Q. All right. Good.

Ms. Baker, you've worked for Southern Company for nearly 30 years; correct?

A. I think he said 26 earlier, but yes.

Q. Forgive me. Well, your entire career;

correct?
A. Yes. That is correct.
Q. All right. And I think we covered you have responsibility for deciding the electricity rates that Alabama Power customers will pay?
A. I have the responsibility for presenting those rates to the commission for their approval. Producing rates and presenting them for approval, but I don't get to decide.
Q. Thank you for that correction.
In terms of the -- your purpose here, you're helping us understand how to kind of translate this proposed expansion under review in terms of what customers will be seeing on their bill; is that correct?
A. That is correct.
Q. Okay. And in terms of the timeline, can you just briefly recap for us when you anticipate, if you were to receive approval, customers will start to see the cost appearing in their bills?
A. Yes, we can look at that. Let me --
Q. It's in your rebuttal testimony.

A. Yes. The rebuttal testimony exhibit will just help me keep my place, because we're talking about several generating units in this portfolio.

So we begin to incur cost and benefits associated with Hog Bayou as soon as practical after a determination is made. So if we get a approval for Hog Bayou this year, then we would begin seeing some costs associated with Hog Bayou as well as some fuel benefits.

I will point out that in that first year, 2020, the benefit in our estimate are greater than cost, so it would actually be a benefit in 2020. In the year 2021, that converts to very, very little cost. It's almost a wash. In the year 2022, we see one solar project come in service. And in the year 2023, we pick up Central Alabama about midyear, we pick up Barry 8 at the very end of the year, and we pick up -- no -- yes, we do pick up one more solar project. And then in January of 2024, which is when I stated that everything will be in place, the last three solar projects come on the line.

So all of the costs would be involved in the year 2024.
Q. And I think, in your opening statement, you referred to a recent rate decrease?
A. That's correct.
Q. Okay. And you stated that that will dampen the impacts of the closed expansions?
A. Yes. In comparison to last year, this year customers will use -- the residential typical bill would go down about $4.50. So over the course of the next four years, if we see rate pressures equivalent to $4, then we would be back to a point at the year 2024, where we were still $.50 less than what customers saw last year. So that's what I mean by that statement.
Q. That's in terms of -- it's not as though there's some other interaction between whatever changes you're currently making compared to that rate to create them --
A. No. Just for the effect that they have on customer bills. Customer bills just went down, so if they go up, we'll be back to where we were last year.

Q. And just to be clear, the rates went down in past not because of this proposal?
A. No, not because of this certificate.
Q. And you agree that the existing resources on the system are cost effective for customers?
A. The existing resources --
Q. Right.
A. -- are cost effective. There may be more cost effective options, as we've seen today, but that's the resources that are in place that have been acquired over time, and I believe that they were the most cost effective at the time they were taken.
Q. But you don't contend that today customers aren't getting these cost service from the company?
A. I believe that they're getting the most cost effective service that they can get considering the portfolio that had been built up to this point.
Q. And there was mention of this Calhoun PPA?
A. Yes.
Q. Are you familiar with that?

A. I am.
Q. And remind me, when is that expiring, that power purchase agreement?
A. I believe it expires in 2022.
Q. Do you know of any analysis to extend that power purchase agreement for one, two, or three years?
A. I have not heard of any.
Q. Okay. If there were such analysis, would you know of it because of this rate implications?
A. I probably would not know of it at this point. We're not close enough to 2022 for that to be something I would be involved in.
Q. So how close to the expiration of power purchase agreement, given your decades of experience, do you start to think about the rate implication of that particular contract being renewed or allowed to expire?
A. The decision as to whether that contract would be renewed or expired would be a resource decision that would be made in the resource planning group, so they would determine if it

was most cost effective to continue or eliminate. So at the point that they make that decision, and we are reaching a point where that would have an impact on the rate, then I would become aware of it.

If the Calhoun PPA expires, then rates would have a decrease at that point, so that's when I would become aware.

Q. Okay. That was a pretty convoluted answer. I appreciate all the detail.

Let me just ask you, in terms of a month or a year range, again, given your experience and speaking in generalities, when you have these types of capacity power purchase agreements, and you have had many over the years; correct?

A. Yeah.

Q. So usually, they're time bound, and eventually, they expire.

And my question is simply, how close to that expiration date, are we talking months or years, that Mr. Kelley's going to come to you and says we should sit down and think about what the implications are for customers or whether we

should proceed under this power purchase agreement or get out of it?

A. Mr. Kelley wouldn't come and ask us. He would make the decision based on the economics that he's looking at. He wouldn't ask us. And I think it just all depends on what's going on at that point.

For example, if this certificate is approved, I know today that PPAs are going to be going entered in in the year 2024. So I know four years in advance in this circumstance. But I don't know how far in advance the resource planning group will make a decision on Calhoun. I'm just not aware.

Q. Have you been privy to any discussion about whether that should be extended?

A. I have not.

Q. Okay. Just to be equitable, Ms. Baker, are you a Southern shareholder?

A. Surprise. I am.

Q. Okay. And do you happen to know how many shares you own or have access to?

A. I do not know.

Q. Okay. Given the length of your service to Southern, would it be essentially comparable to your colleagues?

THE COURT: Don't be comparable to Mr. Looney.

THE WITNESS: I was thinking I might be more impressive than Mr. Looney, but I'm not sure.

It is an employee benefit, so it would be probably comparable based on years of services and that we are at same levels, so...

BY MS. CSANK:

Q. I got you. Thank you.

Do you recall the conversation from yesterday that I was having with Mr. Kelley, I believe, about the construction work in progress, and he sent me your way?

A. Yes, he did.

Q. All right. And so are you familiar with that October order that granted the company's request for this accounting treatment of construction work in progress?

A. I have read the order.

Q. Okay. And so can you help us out with your understanding that 5 percent threshold that was a condition of the commission's approval and the kind of reporting that the commission's order also prescribed? We'll take those in turns. I was just asking your familiarity with those subjects.
A. Yeah. And if you can provide a copy of the order, it would be helpful for me.
Q. One moment.
A. Thank you.
Q. My esteemed colleague will be coming your away shortly.
A. Thank you.
Q. I'll give you a moment to review and verify that's a true and correct copy of that order.
A. All right.
Q. And for the benefit of the record, since we spoke about this, this is Document U5316, I believe.
A. I think. Okay.
Q. And give me a moment to find my reference. There's a -- in the latter page of the order,

the conditions of approval identified as 5 percent.

A. I believe it's on page 3.

Q. That's correct. Thank you.

So do you see that reporting requirement?

A. I do.

Q. So are you aware of whether that initial report of actual costs incurred through December 31, 2019, has been submitted?

A. I am aware that that report was submitted and that there has been a monthly update to that each month since then.

Q. Okay. And when I last checked that docket, which was yesterday morning, those were not posted in the public docket.

A. I believe they're just reports provided to staff under their oversight.

Q. And can you tell us whether you've met that 5 percent threshold?

A. We have not.

Q. How close are you to it; do you know?

A. I do not know.

Q. Okay. And can you confirm for us whether

the commission or the staff has received estimates of the cost of Barry 8 beyond what's estimated into this cost that we were talking about earlier, which is the cost up to getting the unit up and running?

A. I believe that the commission staff has had access to all of the information that has been provided in this proceeding thus far, which included Brandon -- I'm sorry -- Mr. Looney's analysis, which included the cost for that unit as part of his analysis.

Q. So your understanding of the company's disclosure of Barry 8's cost is limited to the analysis and work papers and discovery responses by Mr. Looney; is that correct?

A. I'm sorry. I didn't understand the question.

Q. Okay. So you overheard in the last going on two days we've discussed various costs and risks associated with Barry 8?

A. Yes.

Q. And I was just confirming your understanding of what the scope of information

that was provided to the commission by the company with respect to those costs and risks.

A. I do not know the scope of everything that was provided to the commission staff. I am aware that as part of this process, Mr. Looney's numbers are available to the staff, such as staff may have requested other information that has been provided as part of this process that I'm not aware of.

Q. And in terms of your job responsibilities, do you communicate directly with customers?

A. I do not.

Q. Okay. Do any of your direct reports -- you supervise part of their job responsibilities?

A. Not directly to customers, no.

Q. Okay.

A. I will add to that, that I do have contact with some of our larger industrial customers, and so there is some interaction there between our departments.

Q. Okay. And why would that be?

A. Interaction on questions about pricings that are extremely impactful to them, doing

estimates on rate comparisons for them, things of that nature.

Q. So you don't provide comparable communication, for example, for low income residents?

A. We provide communication through our customer service center for anyone who calls and asks a question about rate options.

Q. Okay. In terms of -- going back to low income customers, do you perform any sort of analysis on ways to dampen the rate impacts of resource changes to that specific group of customers?

A. I have not performed an analysis specific to this resource portfolio. I know that we have a rate rider that provides a discount to customers who received supplemental security income or Medicaid for low income family. That's our SSI rider.

Q. Are you familiar with the fact that other retail operating companies, when proposing resource changes, have identified specific ways to dampen the impact on low income customers?

Would that surprise you?
A. I am not aware.
Q. Would you be the one who would receive information on various funding that's available from the federal government specifically to help dampen the energy burden for your customers?
A. I heard you speak of dollars yesterday for weatherization. So if it were of that nature, no, I would not be aware. That would be something that would take place in our group that focuses on energy efficiency and demands that management option for customers.
Q. But ultimately, it would come to you to translate into rates, would it not?
A. If it were a specific program that had an individual rate associated with it, then I would definitely be aware of it. If it were just a cost of the company that flows through, it would depend on the magnitude as to whether I would be aware of it or not.
Q. Okay. And for time's sake, I'm going to hand you two exhibits, and I just have a couple of questions for you about them.

A. Okay.
Q. And I have copies for your counsel, and then will eventually provide a copy for the judge. We'll just focus on the first one.
A. Thank you.
Q. The first one is shorter. It's just two pages.
Do you see that?
A. I do.
Q. And you see that it's a document from the U.S. Department of Energy, and it describes a low income weatherization program.
Do you see that?
A. I do.
Q. And you see at the bottom of the page, there's, I believe, on your copy, an exhibit sticker. But in any event, it's a two-page document, and on the second page, you can see on the lower right-hand corner the document that -- the Department of Energy document number and the date, February 2018.
Do you see that?
A. Yes, I do.

Q. And have you seen this document before?
A. I have not.
Q. Well, let me represent to you that it was accessed on the U.S. Department of Energy's website, so it's a public government record.
And you will see that the subject is weatherization works, exclamation point, and it it's basically a fact sheet that describes this funding that the federal government makes available. And it says, you'll see on the first page on the right-hand column around the middle of the page, that the department provides this funding to all 50 states.
Do you see that?
A. I do see that.
Q. That would include Alabama. But Mr. Kelley, he's not aware of the company providing programs using the funding to your customers.
Is that your understanding too?
A. He would be more knowledgeable on the fact than I would. The department that he works in is more closely related to what we are doing in

terms of DSM programs, and I believe that's where this would fall.

Q. Okay. But insofar as you're making a recommendation to this commission about what is or is not dampening the cost implication for customers, you haven't looked at all options like this, have you?

A. I have not looked at this specific program, no.

Q. And having skimmed it, do you have any reason to dispute any of the facts in this government document?

A. I do not. And I know that the company provides information to customers about energy efficient actions that they can take, and this seems to be in line with that.

Q. But this specific type of home weatherization is not something that you provide?

A. I have not provided it. It sounds like something I've heard discussed in the past. It's like, at one point in time, this state was involved in a program where they did low income

weatherization, and we were involved with it.
But I do not know the specifics.
Q. And just bear with me for another moment.
If you turn to page 2. At the top of the page,
it says, "Impact on communities."
A. Yes.
Q. And then let me just read this to you and
tell me if I read it correctly for the benefit
of another copy.
It says, "Weatherization not only helps
households. It also helps revitalize
communities by creating economic growth,
reducing environmental impacts. Weatherization
returns $2.78 in nonenergy benefits in every
dollar invested in the program," and there's a
national evaluation.
You don't have analysis like this for
weatherization specific to your system and what
it would do to rates, do you?
A. I do not.
Q. Okay. And let's turn to the next document.
A. All right.
Q. This is an article from the news website

Box. Do you see that at top of the page, B-o-x?
A. I do.
Q. And this is a longer document. It was accessed from the Box website, and the title is "Utilities Have a Problem: The Public Wants 100 Percent of Renewable Energy, and Quick." And then the subtile is "The Industry is Groping For Ways to Talk the Public Down."
Do you see that?
A. I see that.
Q. And the immediate next line says, "updated October 11, 2018."
A. That's correct.
Q. Okay. And you've had a chance to quickly flip through this?
A. I did.
Q. Let me ask you before getting into the document, do you -- are you familiar with the Edison Electric Institute?
A. I am.
Q. That's a trade group that -- whose membership consists of electric utilities, like Alabama Power?

A. That's correct.
Q. Do you know if Alabama Power is a member of the EEI?
A. Yes, I believe we are.
Q. Okay. And have you seen this article before?
A. I have not seen this article.
Q. Have you per chance heard of or even reviewed yourself the referenced public poling done by EEI in this article?
A. I have not.
Q. So let me call your attention specifically to one finding in that polling conducted by this utility trade group.
All right. And it's on page 4 of the exhibit, towards the bottom of the page.
A. Yes.
Q. And actually, let me first direct you to the -- a third of the way down, it says, "Here's the most striking slide in the presentation," and then you see that bar graph?
A. Yes, I do.
Q. Okay. And under that, it says, "In case

you don't feel like squinting, let me draw your attention to the fact that a majority of those surveys, 51 percent believe that 100 percent renewables is a good idea even if it raises their energy bills by 30 percent."

Do you see that?

A. I do see that.

Q. And then it goes on to say, "That is wild. If anyone who has been in politics a while knows Americans don't generally like people raising their bills, much less by a third. The majority has spoken. That is political dynamite."

Do you see that?

A. I do see that.

Q. Okay. And has the company conducted any polling like this across its customers; do you know?

A. I do know that the company has conducted some polling. I don't know the results of that polling off the top of my head. I'm familiar with the fact that it's been done.

Q. When was that polling done?

A. I don't know when it was done. It's

something that as I sit here I have heard of it in my head. So I mean, I know that it has been done. I don't know how frequently or when.

Q. Are the results of that polling public?

A. I don't believe they would be.

Q. Have they been shared with the commission?

A. I am not sure if they have or not.

Q. What part of the company does the polling; do you know?

A. I believe it was in the public relations department.

Q. Is there a company witness here from that department?

A. There is not a specific employee who is here from the public relations department.

Q. Is there a manager who oversees that department here?

A. No, there is not.

Q. Would the results of that polling potentially influence resource decisions or raise; do you know?

A. I belive that we would continue to operate in a fashion that says we will provide

generation to our customers that's most cost effective and not because some customers are willing to pay more. To the extent that some customers are willing to pay more, we would have other options for those customers similar to the RGC option that we've been describing.

Q. And certainly, if you were able to add additional renewables without any upward pressure on rates, you would do so; correct?

A. I believe that we would.

Q. Okay. Have there been discussions about how you could go about doing so?

A. Discussions under the context of RGC would be where we currently would look at those options.

Q. And in your knowledge about the company's efforts in this area, sort of coextensive with Mr. Kelley's, or do you have additional information for us beyond what Mr. Kelley and the other company witnesses have said about that renewable procurement in the future?

A. I don't know if you're talking about renewable as a resource or if you're talking

about the actual RGC construct. So I may know more about the RGC, but I don't know that I would know more about our renewable resources.

Q. Okay. Before we waste time, let me just understand, what's your additional knowledge about the RGC?

A. I think you asked when it was going to expire. I believe that's at the end of 2021. I think I heard someone ask that today. I don't know if anyone knew the answer.

I am aware of the conduct behind the RGC, which is to look at -- if we were to add generation that is not required by need, then we're looking at adding something that we don't have to add, but we belive that it could provide benefit. So whenever you enter any kind of forward looking deal like this, there's some risks brought on.

So the way we look at the RGC, because it's not needs based, we would look to have participation from customers like those surveyed here, who are willing to put forth additional money to cover the risks that that project would

not be to the benefit of all customers over the life of that project. So that's my knowledge of how it operates, if that's helpful.

Q. Thank you. Have you participated in any planning for the potential denial of the petition?

A. I have not.

Q. So as we sit here today, you have no analysis about what rates will do without -- in the event of a denial?

A. If there is a denial, then I wouldn't expect it to have any impact other than as we move forward, it turns out that there was a need, and we have to go and procure resources from some high cost -- higher cost option, then it would have a higher impact in the future.

Q. I think it might be helpful for the record, and you might be the right person to ask, in terms of the estimates that you're presenting to the commission about rate impacts, do those include any estimate of climate damages that would result from the gas units that are in the petition?

A. I'm not aware of any climates damages, so it would not be included.
Q. And what's your understanding of climate damages?
A. I don't have a clear understanding of what you mean when you say "climate damages."
Q. Okay. Let me help you. I think I have a document that identifies the Southern Company's statements on climate damages, and forgive me for only having one. So I'll bring this to your counsel.
MS. CSANK: Your Honor, may I approach the witness?
THE COURT: Yeah. Do you have copies of the other documents that you presented her?
MS. CSANK: Yes, sir.
MR. GROVER: Oh, this is not mine to keep?
MS. CSANK: No. Sorry.
THE WITNESS: That's little.
BY MS. CSANK:
Q. I did not bring a magnifying glass. Sorry.

And while you're looking, in case it wasn't audible, this is an excerpt from the Southern Company's 10K, which has been the subject of cross-examination in this hearing already. And again, because it's voluminous, we're just providing you a single page, and this is from a section titled "Utility Regulatory, (inaudible), and Litigation Risks."

And it states, "Southern Company subsidiaries are subject to substantial state and federal governmental regulations, compliance with current and future regulatory requirements in procuring of necessary approvals. Certificates may results in substantial costs of Southern Company and subsidiaries."

The portion that I've highlighted at the bottom in page 518 of that document states, "Litigation over environmental issues in various types, including property damage, personal injury, common law nuisances, and citizen enforcement of environmental requirements has occurred throughout the U.S. This litigation has included claims for damages alleged to have

been caused by CO2 and other emissions, CCR releases of regulated substances, and alleged exposures to regulated substances and/or requests for injunction relief in connection with such matters."

Did I read that?

A. You did.

Q. Thank you. And so far as you know, the scope of damages that I just read about is not a scope that's been analyzed or otherwise incorporated into the rate impact estimates that you're providing?

A. No. It appears to be a disclosure of a potential risk. I do not see that there's any magnitude or calculations associated with it that would be something that could be used to evaluate.

Q. Okay. And as applied here, you don't know of a case specific, petition specific analysis of damages resulting from the gas units in the petition?

A. I do not know of any.

Q. Okay. And -- but you agree that it's

possible to analyze and estimate the quantity of such damages?

A. If actual damages were identified, this just says there's a risk that there could be some. But if actual damages were identified, then I do believe you would quantify them.

Q. Okay. And so quantify those damages would be something that you would typically seek to pass onto your customers; correct?

A. I'm not sure. I believe it would depend on the circumstances under which those costs are accrued. It says litigation, so I don't know that the results would be a cost that would be passed on. But I don't have a context to make that determination.

Q. And just by way of example of an illustration of the quantification of such damages, did you review the pre-filed testimony of the Sierra Club witness Rachel Wilson?

A. I did not.

Q. You did not. Okay.

But in general, in your experience, environmental compliance costs are passed onto

customers?
A. That is correct.
Q. And would that include litigation associated with environmental compliance?
A. I am -- I'm not clear on that one.
Q. Are you familiar with any person of the company passing on litigation costs, including from environmental compliance, to customers?
A. I believe, what's coming in mind, it would depend under what context the litigation costs are that you're discussing. For example, the litigation cost of being here today would be included as a recoverable cost to customers. Any work done regarding our environmental compliance tariff would be a recoverable cost. So I'm not sure.
Q. So it sounds like it's probably a yes in the context of environmental compliance specific litigation?
A. I believe so, but I'm not the authority on that.
MS. CSANK: No further questions. Thank you.

THE COURT: If I can get documents to mark, I would like to do that, so we can get them introduced.

Sierra Club 3 will be the U.S. Department of Energy low income weatherization.

MS. CSANK: And, Your Honor, the order from Docket U531680, you don't need to mark that.

THE COURT: I can just take administrative notice of that.

The U.S. Department of Energy weatherization document is marked as Sierra Club 3, the article from the Box is Sierra Club 4, and the page from the 10K is Sierra Club 5.

MS. CSANK: Thank you, Your Honor.

THE COURT: Any objection to the admission of those documents?

MR. GROVER: No objection, Your Honor.

THE COURT: They are admitted.

Any cross-examination from Alabama

Solar.

MS. HOWARD: No, Your Honor.

THE COURT: Attorney general?

MS. MARTIN: I have just a few questions.

CROSS-EXAMINATION

BY MS. MARTIN:

Q. Hello, Ms. Baker. I'm Olivia Martin.

A. Hello.

Q. Will you be involved in the development of the demand side on options for the 200 megawatt?

A. I don't believe I will be involved in the development, but to the extent that any of it has a rate associated with it, I would be involved in the development of the rate, and then potentially involved in gaining approval for either part of it that does require additional approval.

Q. And what part would you imagine would not require approval?

A. I don't foresee there being a need to be an approval specific to like expanding industrial interruptible program. If we were to add some

interruptible load into that, that would be a part of adding that 1,500, that, of course, would be something we would probably report. But I don't think we would have specific approval associated with just expanding that.

Q. But if have a problem, you will bring that to the commission for approval?

A. Yes, I do believe we would.

Q. Do you know how much of the 200 megawatt is planned to come from residential or small business?

A. I don't think there's been any determination at this point. We have pilots in effect so that we gain some knowledge as to how customers might actually respond to these signals in the winter.

Q. Well, I know for the interruptible, and Mr. Kelley talked about this last night, to the extent the payout for the large industrial customers to participate, if you were to design a rate for residential customers, would you anticipate (inaudible).

A. Do you mean payment incentive to the rate

or just that there is incentives?
Q. That they would not be developed to be revenue neutral.
A. I think they would be revenue neutral, but it would be including the new costs. So I don't foresee that we would create a discount in the new rate, but the rate would give the customer the potential to change their behavior and achieve a lower cost. But it wouldn't be designed with a lower cost recovery in mind, unless there was behavior changes that did reduce that winter peak.
If there is no behavior change, then it doesn't actually say it was any cost. Does that make sense? I'm sorry.
Q. Even with the rates that are in effect now, if you change your behavior, you have a lower cost, but if you don't, do the rates spike? It can cost you more?
A. It has the potential to cost more if you don't respond. That's correct.
Q. It has somewhat of a built-in penalty?
A. Yes. That would be the piece of it that

tries to incent the customer's behavior, that it would signal to them.

Q. And earlier, when Mr. Johnston was talking and he was asking you about commercial or maybe a larger customer, who may want 100 percent renewable.

A. Yes.

Q. So it's my understanding that you answered him that all customers would have to pay for this new capacity, that they would not be exempt; in other words, that would not be shifting just to residential customers.

A. The piece that we're asking for here today, you're correct, it would not be shifted to anyone as long as all customers were still benefitting from the capacity value of it, the capacity needs. All customers will continue to pay for it.

Q. I just have one more question.

I know you have your SSI rider, and I'm not asking for you a legal conclusion.

A. Okay.

Q. But do you know whether Alabama law allows

the company to develop special rates for low income customers?

A. I would assume by the fact that we have a rider that was developed before I was around that that was allowable by state law.

MS. MARTIN: Okay. Thank you. I have no further questions.

THE WITNESS: Thank you.

THE COURT: Questions from the staff?

MR. MASON: Yes, Your Honor.

CROSS-EXAMINATION

BY MR. MASON:

Q. Good evening.

A. Good evening.

Q. I'm Chad Mason with the commission staff. I will be very brief.

You state in your testimony that revenues from the existing PPA agreement from the Central Alabama are expected to offset the acquisition costs during the interim period; correct?

A. That's correct.

Q. I understand you expect revenues to offset

cost, but is there any likelihood revenues do not offset costs?

A. We use the word expectation, because it's forward looking. But all of our assumptions about the normal operations of plants during the time that it would be serving another customer are costs that are pretty well-defined by the contract, and then revenues that are pretty well-defined by the contract.

Any risk, typically, comes from fuel risks being different than what we projected. In this circumstance, the customer of that agreement, actually brings the fuel to the arrangement. So the company has no fuel risks in that scenario.

So the only thing that I can foresee being different would be some catastrophic event that changed costs within a year, but because we operate under forward looking mechanisms under ROC, I don't foresee that we would project any unforeseen events. So it wouldn't ultimately have impact on customers rate during that time period.

Q. That was my follow-up.

A. Yeah.
Q. So in that event, what impact would it have on rates?
A. If it was not something that was foreseen, which is the only thing I can see being a real risk here, it would not have been put into the forward look. So if it occurred in the year, it would have just impact the company's recovery, not customer's rate.
MR. MASON: Okay. Thank you. That's all I have.
THE COURT: Redirect?
MR. GROVER: I have a bunch of questions.

REDIRECT EXAMINATION

BY MR. GROVER:
Q. One cleanup item. At the outset, Ms. Baker, you referenced treatment of, I think, the capacity component of the solar battery storage PPA.
Do you recall that?
A. I do recall.
Q. I want to make sure I heard you correctly.

Which factor under rate CNP would the capacity component be captured in?

A. It would be captured under the CNP purchase factor.

Q. Not the --

A. Did I say plan? I apologize. There's a lot of Ps.

Q. Next question. In talking about the typical bill with Mr. Johnston, I heard you use the word linear.

What did you mean by that?

A. I meant that the impact -- it's a per kilowatt hour change. So to the extent that the kilowatt hour doubled, the impact should relatively double. There's a little bit of difference due to taxation and all, but you can generally make a linear decision.

So if a 1,000 kilowatt hour bill was a $4 impact, then if you had a 2,000 kilowatt hour bill, you would be looking at an $8 impact. I just think it makes it easy for customers to reference.

Q. Thank you. Are you familiar with the

program known as Greener State?
A. Yes. Yes, that is a REC sales program.
Q. And when you say -- can you elaborate? I mean, I may be testing your knowledge.
A. It is a program under which a company sales RECs to those that are interested, customers that are interested in purchasing RECs, which will be Renewable Energy Credits, which means that they have gotten the value of the renewable after the use of any generation that produced the renewal attributes.
Q. So it's not an opportunity for a customer who want to spend more toward renewable energies to do that?
A. That is correct.
Q. Okay. And just to clarify a point with respect to the difference between the plant factor and the purchase factor.
A. Okay.
Q. The purchase factor under CNPV, that would be also the area in which you would see recovery for capacity costs associated with the Hog Bayou PPA?

A. That is correct. Did I get them both wrong?
Q. Maybe.
A. I apologize.
Q. That's okay. Last question is this. Earlier, there was a discussion with -- I'm sorry.
There was a discussion with Ms. Csank respecting the 10K and the commentary about litigation.
A. Yes.
Q. Okay. And since there was some hesitance in your voice regarding how it gets treated from an accounting perspective, are you aware of any situations where accounting rules might require treatment of litigation damages or expenses in a way other than recovery from customers under Part C?
MS. CSANK: Objection. Leading.
THE COURT: I'll allow it.
THE WITNESS: I hate to ask to repeat it, but I think I need it repeated.
///

BY MR. GROVER:
Q. Maybe I'll set it up just briefly. You have general familiarity -- first of all, you're not an accountant, are you?
A. No, I am not.
Q. You do understand, though, that company's books and records are governed under the First Uniform System of Accounts?
A. I do understand that.
Q. And do you have a general understanding of whether the Uniform System of Accounts prescribes treatment for damages associated with litigation?
A. My gut is telling me that I recall that it is excluded, which is why there was hesitation in my voice.
Q. But that would be reflected in the Uniform System regardless of whether your gut is right or wrong?
A. That's correct. Accounting would certainly know how to account for it, and so if it were excluded, it would never make it to the cost of service for customers.

MR. GROVER: Okay. Great. You know what? That is actually all I have. Thank you.

THE COURT: All right. Ms. Baker's pre-filed testimony will be entered into the record as will her two exhibits.

Does that bring us to conclusion -- you're excused, Ms. Baker. Have a good evening.

Does that conclude the presentation of the company's case?

MR. McCRARY: Yes, it does, Your Honor.

THE COURT: All right. We will resume in the morning at -- let's go 9:30 since we got through the company's case. Some folks in here will appreciate the 9:30. I think we can still get done.

We will adjourn and return to the tomorrow at 9:30 in the morning.

END OF PROCEEDINGS

(7:02 p.m.)

REPORTER'S CERTIFICATE

STATE OF ALABAMA

MONTGOMERY COUNTY

I, Haley Tunnell, Court Reporter, Commissioner for the State of Alabama at Large, hereby certify that on March 10, 2020, I reported the testimony and proceedings in the foregoing cause and that pages 545 through 940 contain a true and accurate transcription of the proceedings set out herein.

I further certify that I am neither kin nor counsel to any of the parties to said cause, nor in any manner interested in the results thereof.

HALEY TUNNELL, Court Reporter
Commissioner for the
State of Alabama at Large
ACCR 639, Expires 09/30/20
MY COMMISSION EXPIRES: 02/25/23

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